FIG. 1

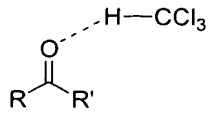


FIG. 2

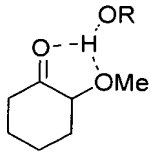
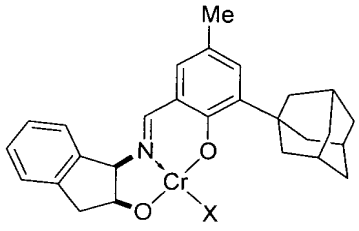


FIG. 3



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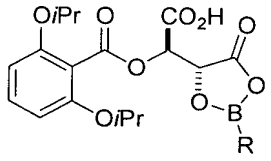
Jacobsen et al



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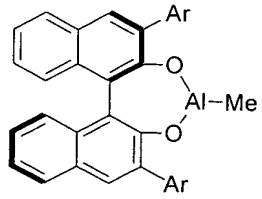
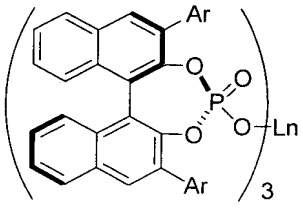
Yamamoto et al



366
Jørgensen et al



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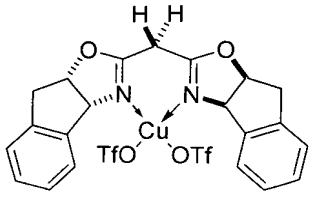
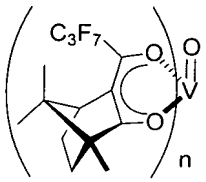
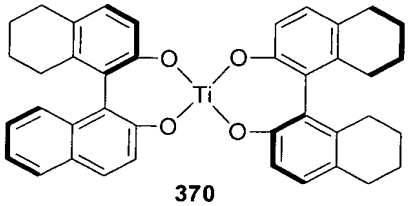
Inanaga et al



368
Ghosh et al



369
Toni



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Ding et al

FIG. 4

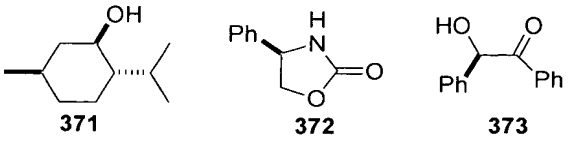


FIG. 5

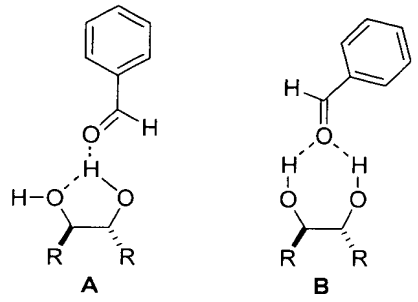


FIG. 6

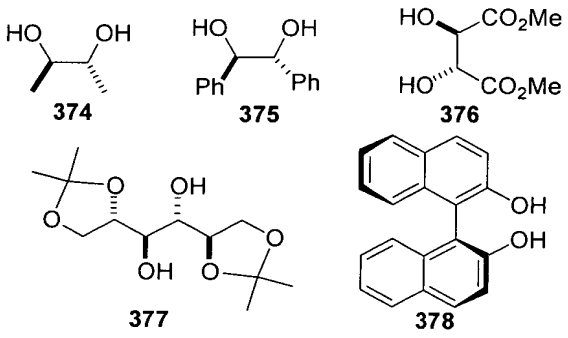


FIG. 7

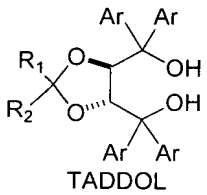


FIG. 8

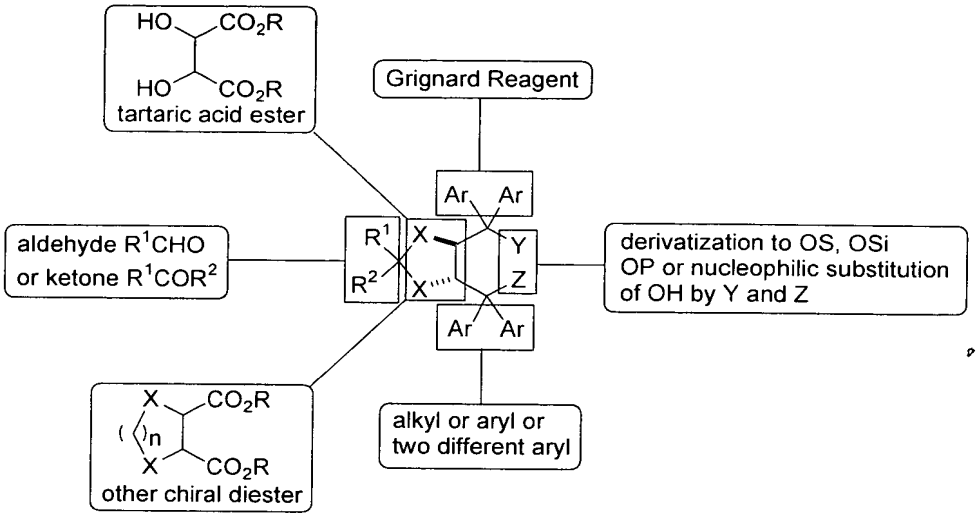


FIG. 9

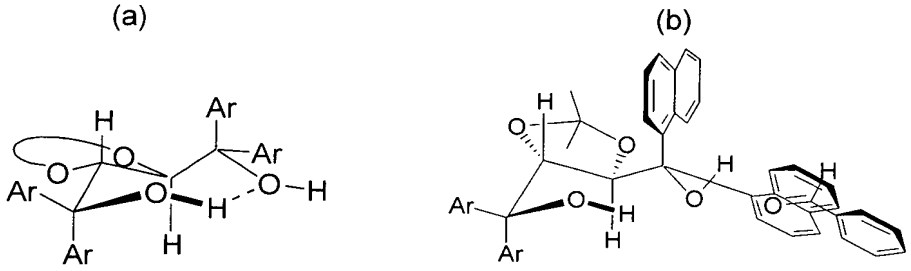


FIG. 10

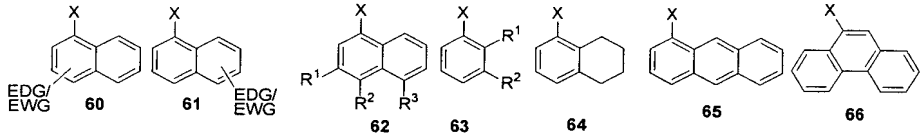


FIG. 11

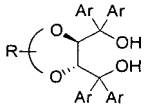


FIG. 12

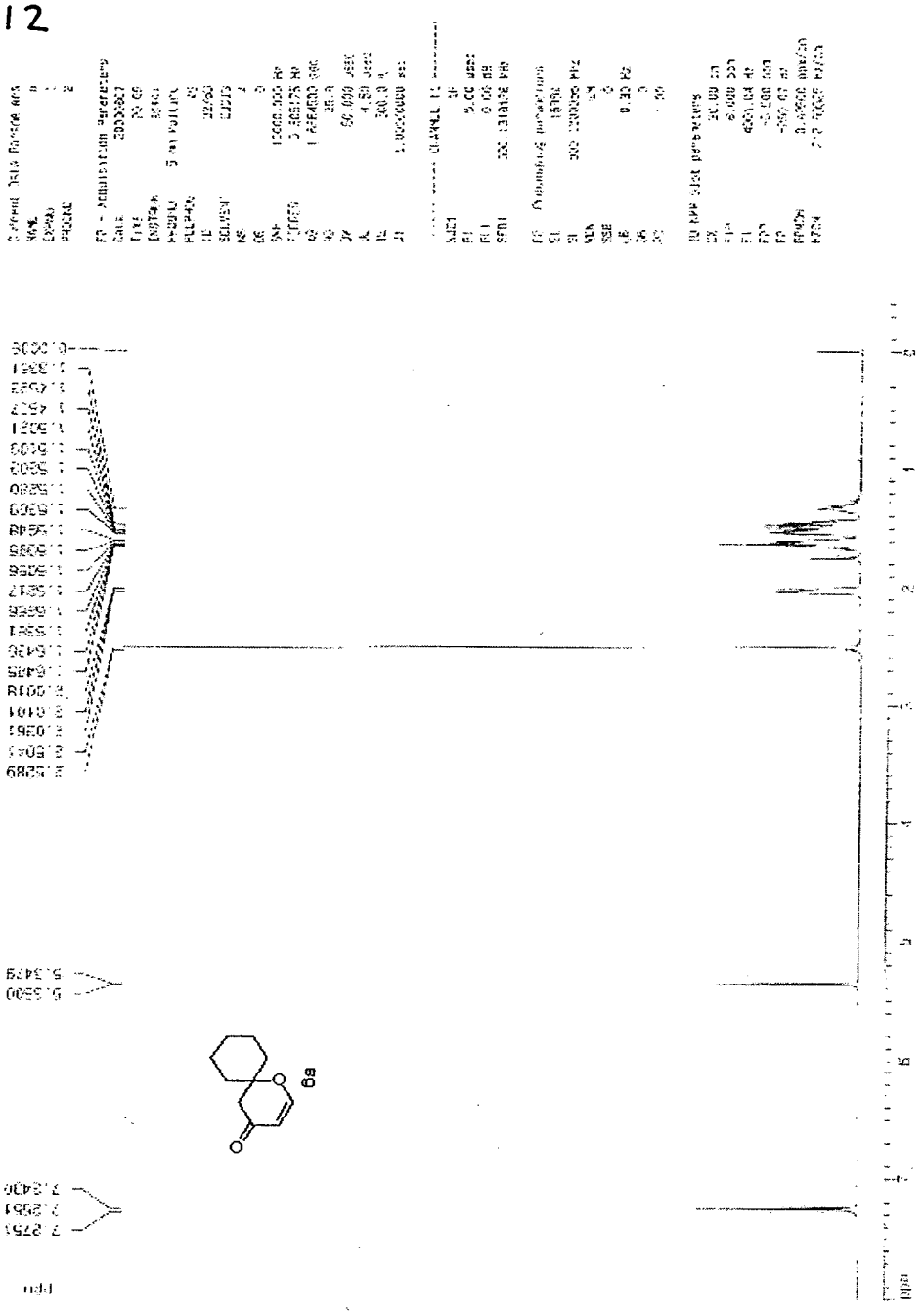


FIG. 13

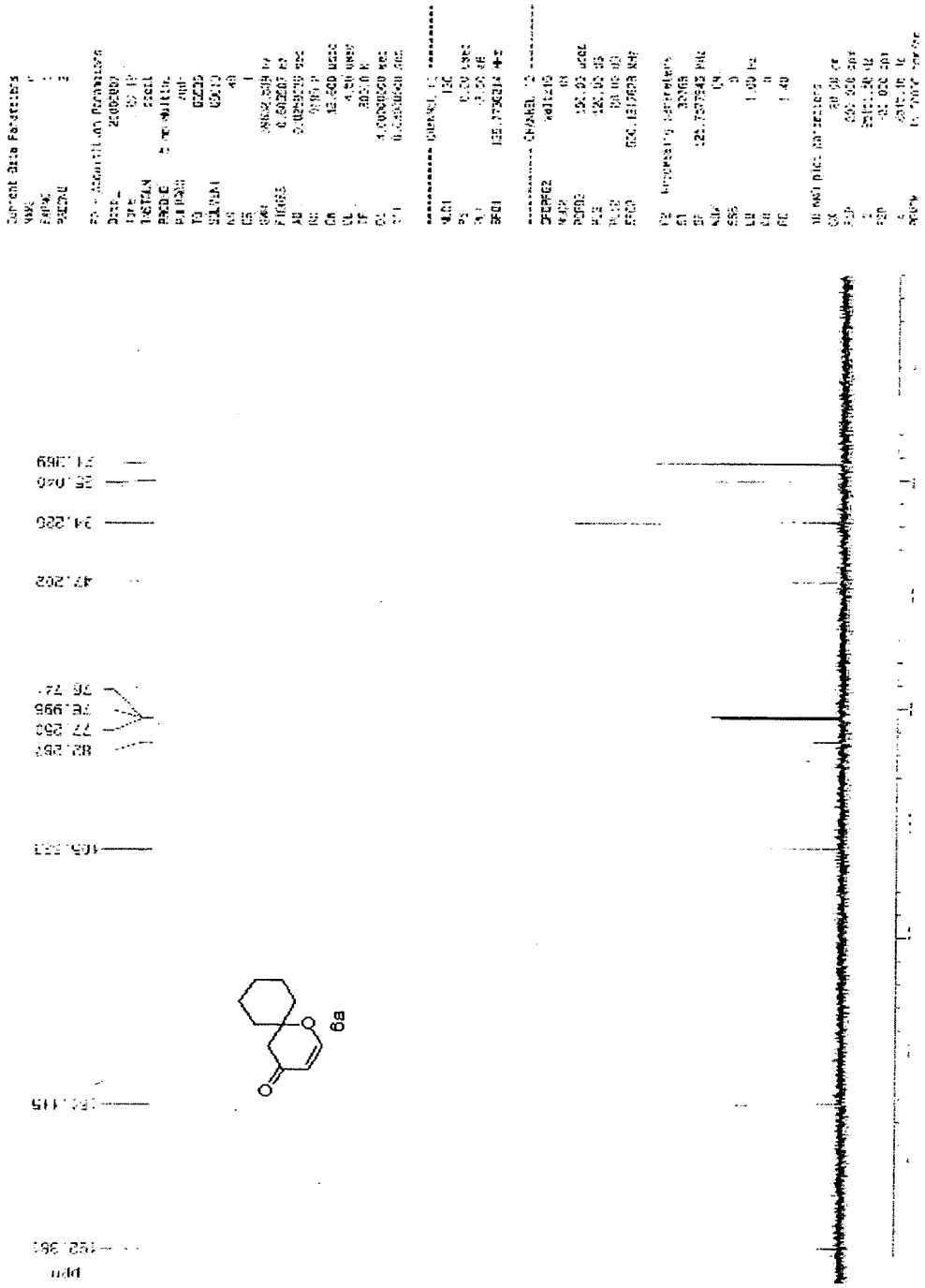


FIG. 14

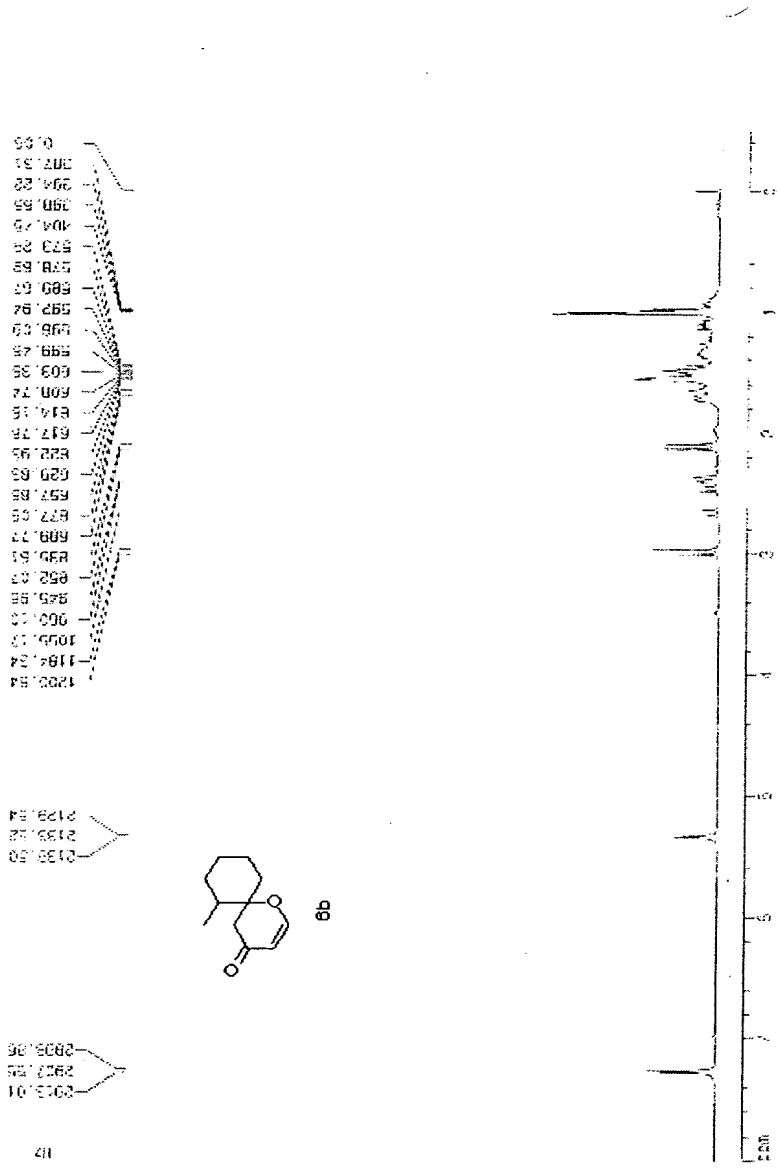


FIG. 15

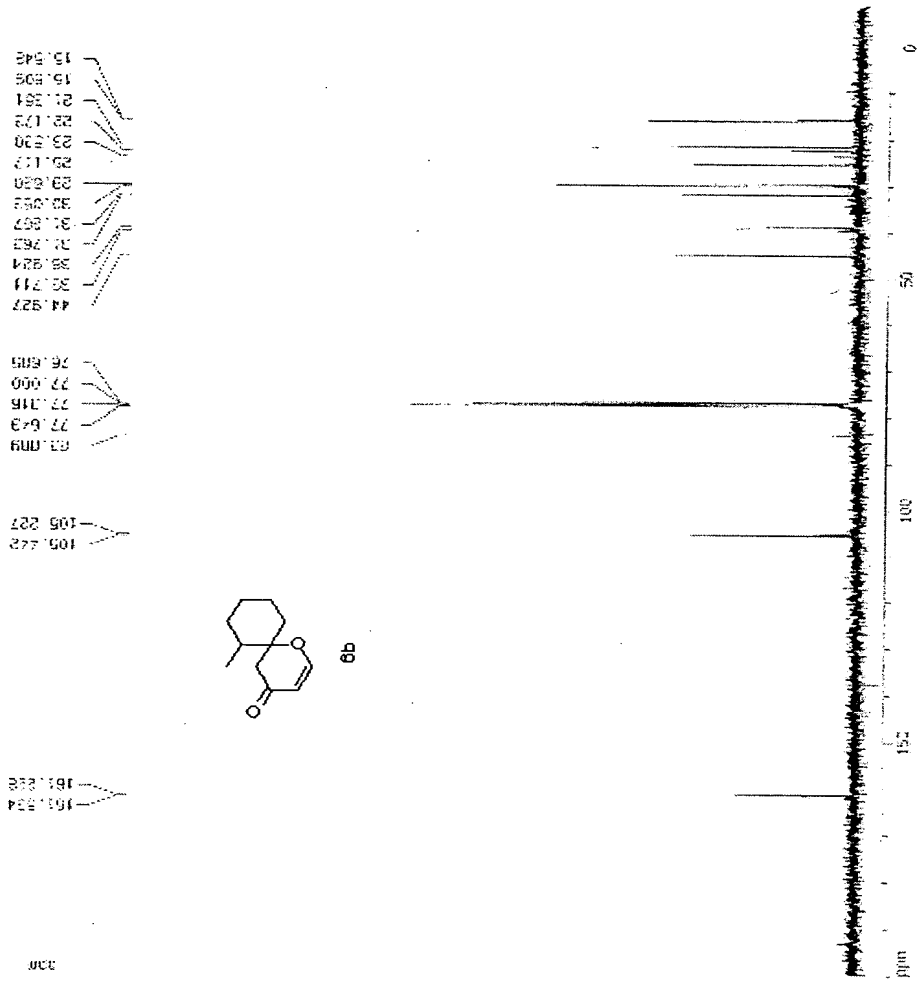


FIG. 16

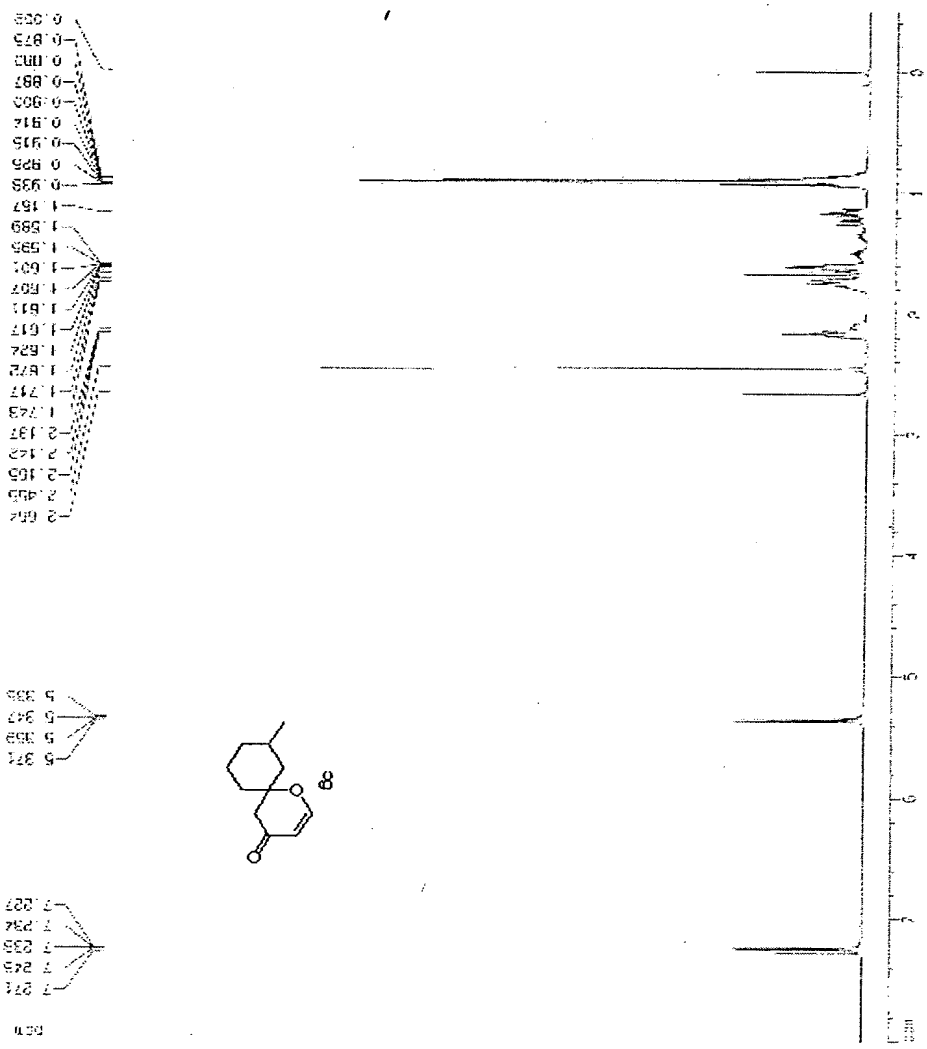


FIG. 17

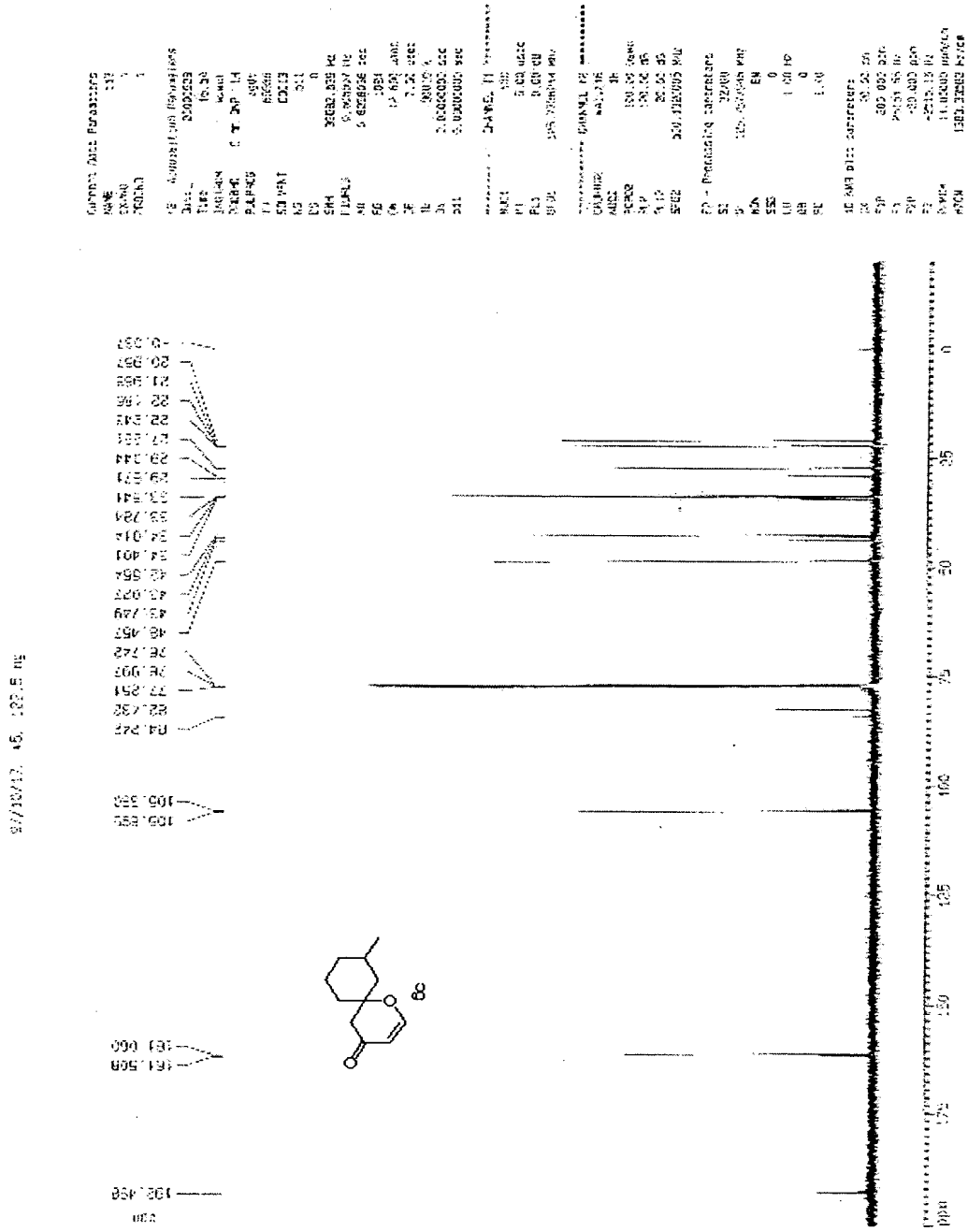


FIG. 18

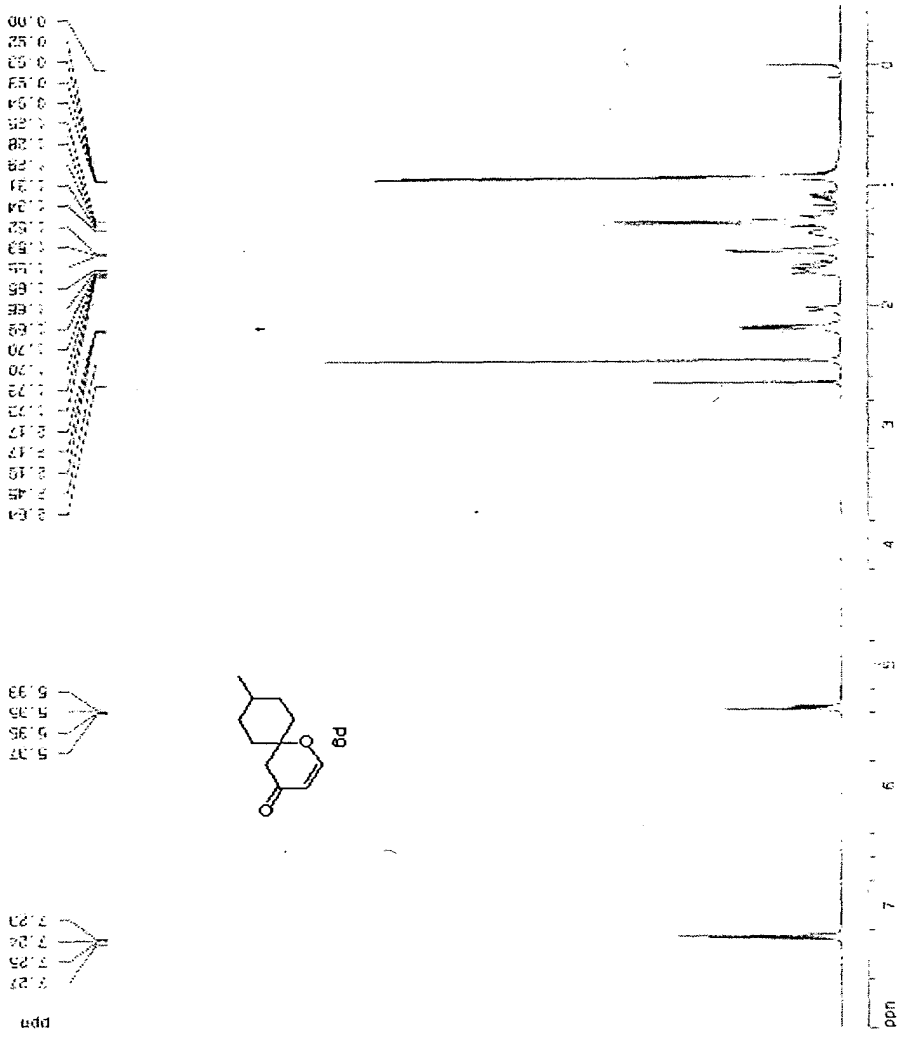


FIG. 19

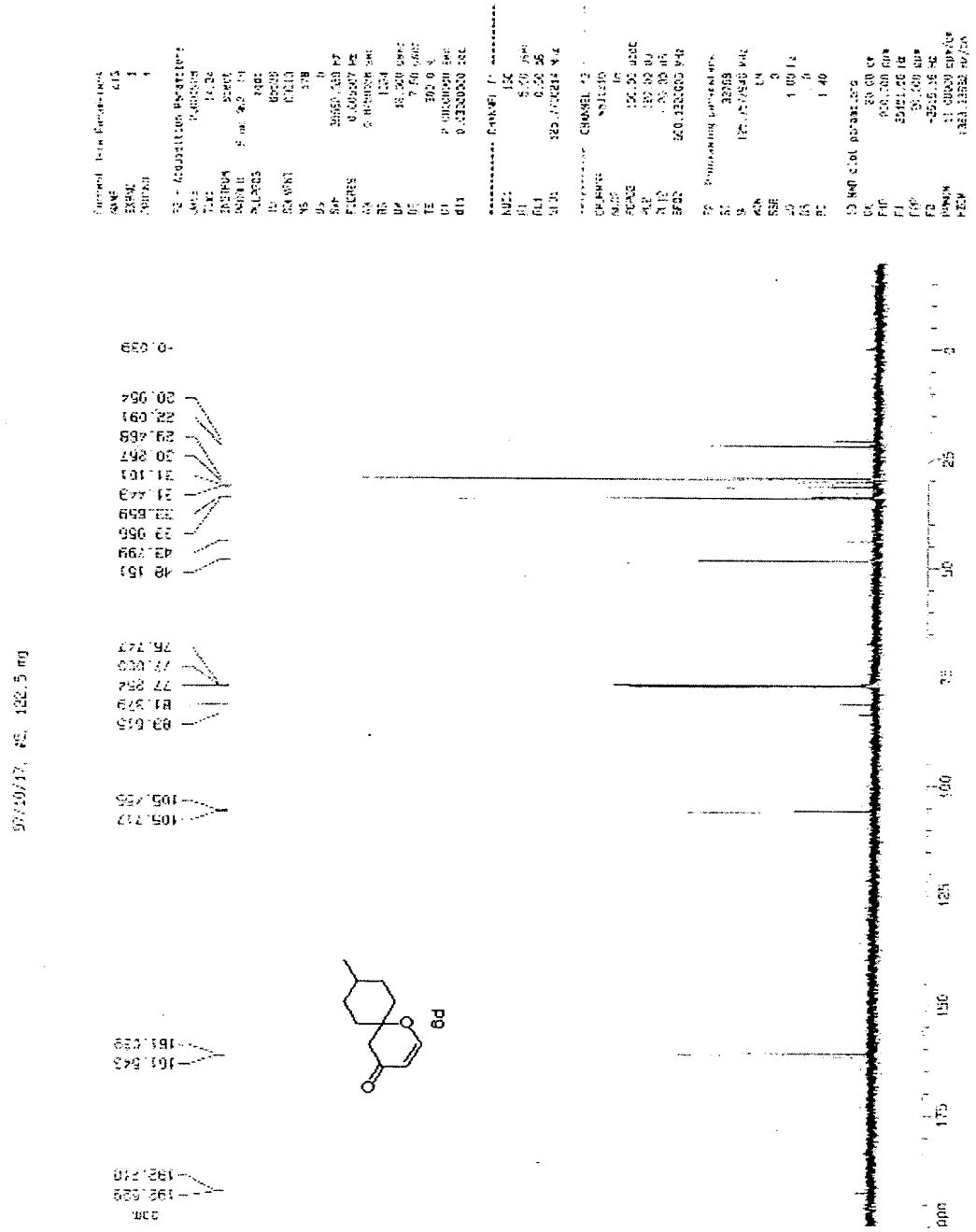


FIG. 20

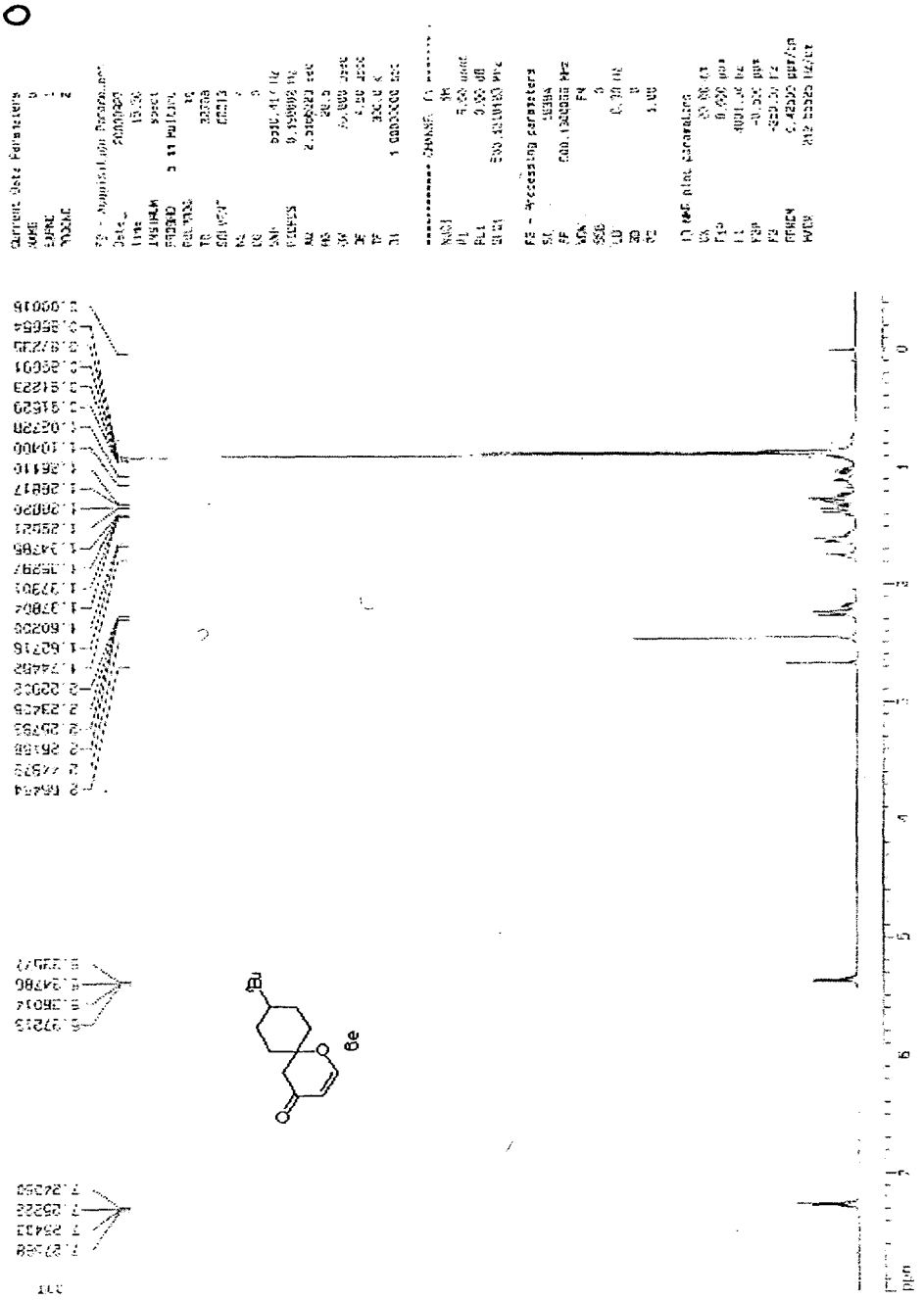


FIG. 21

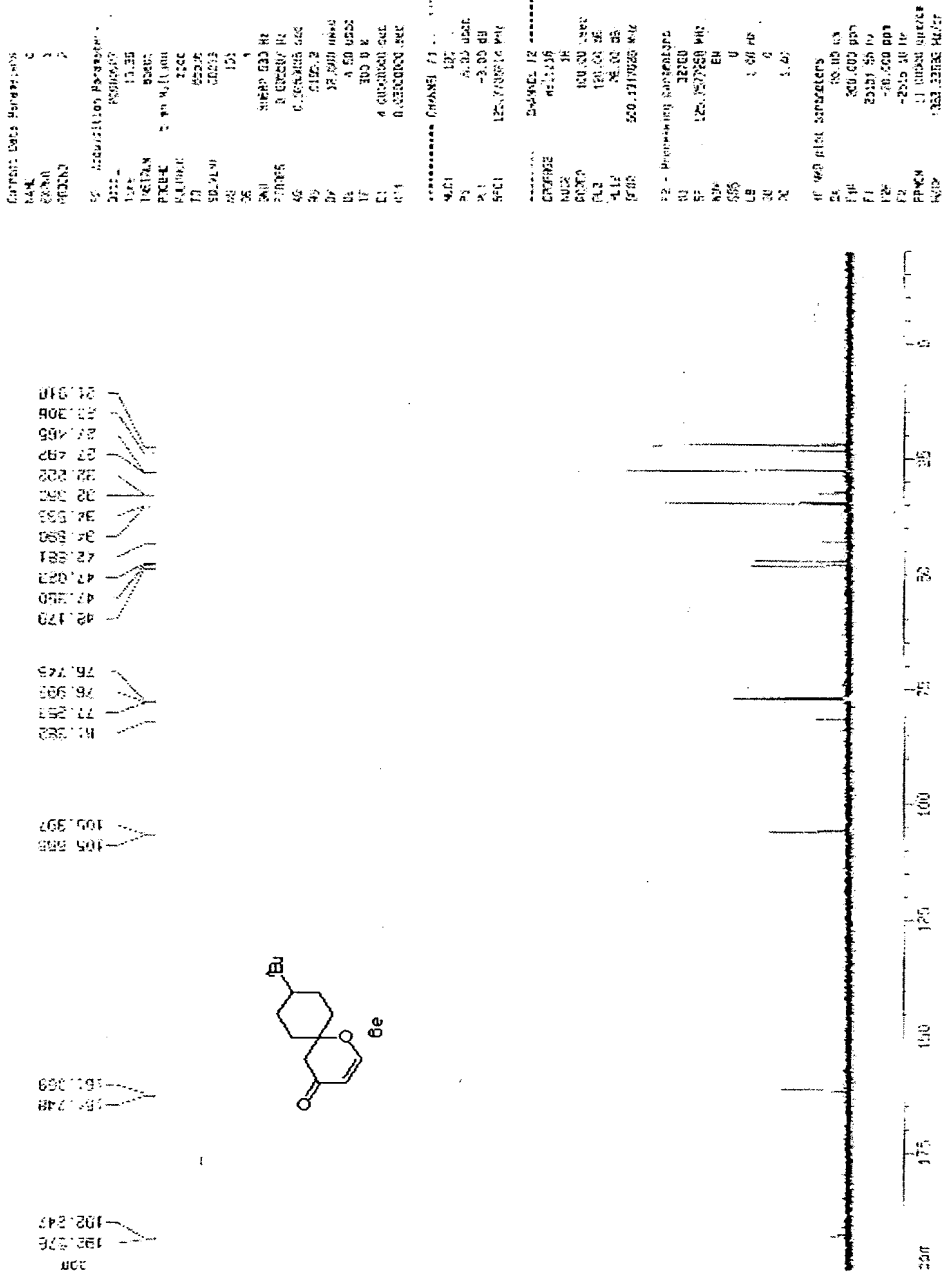


FIG. 22

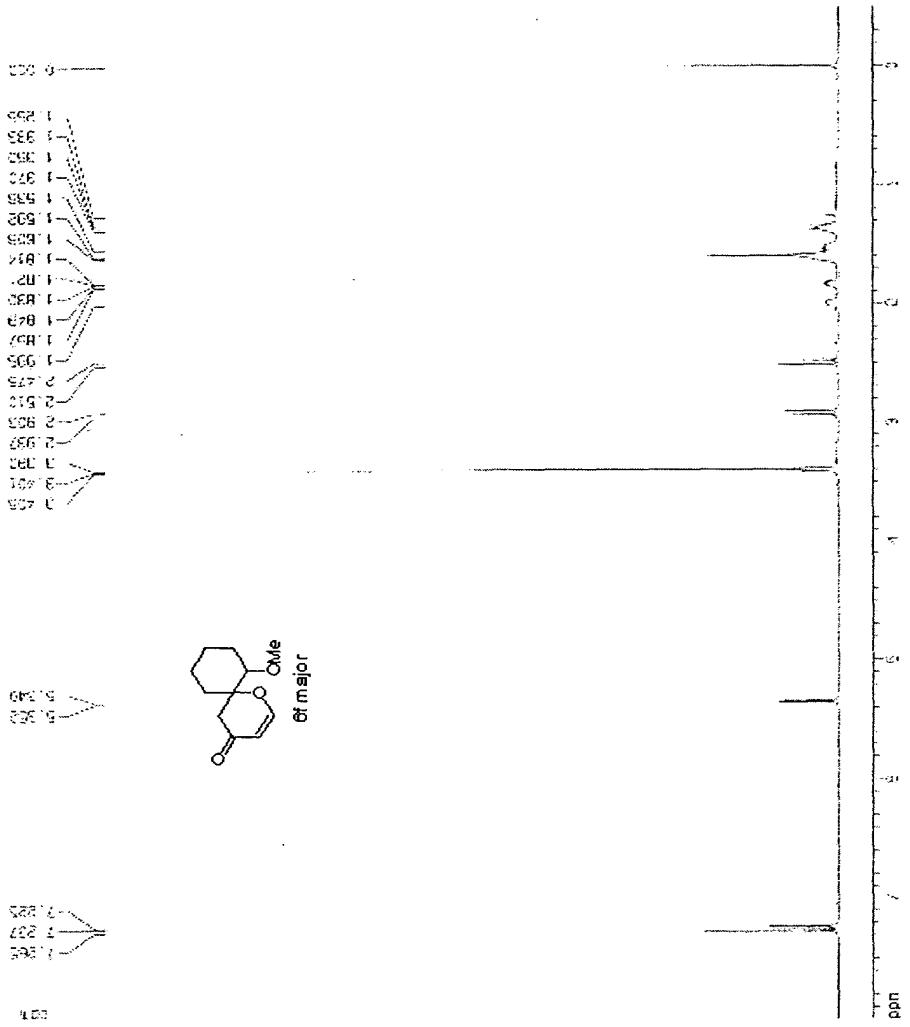


FIG. 23

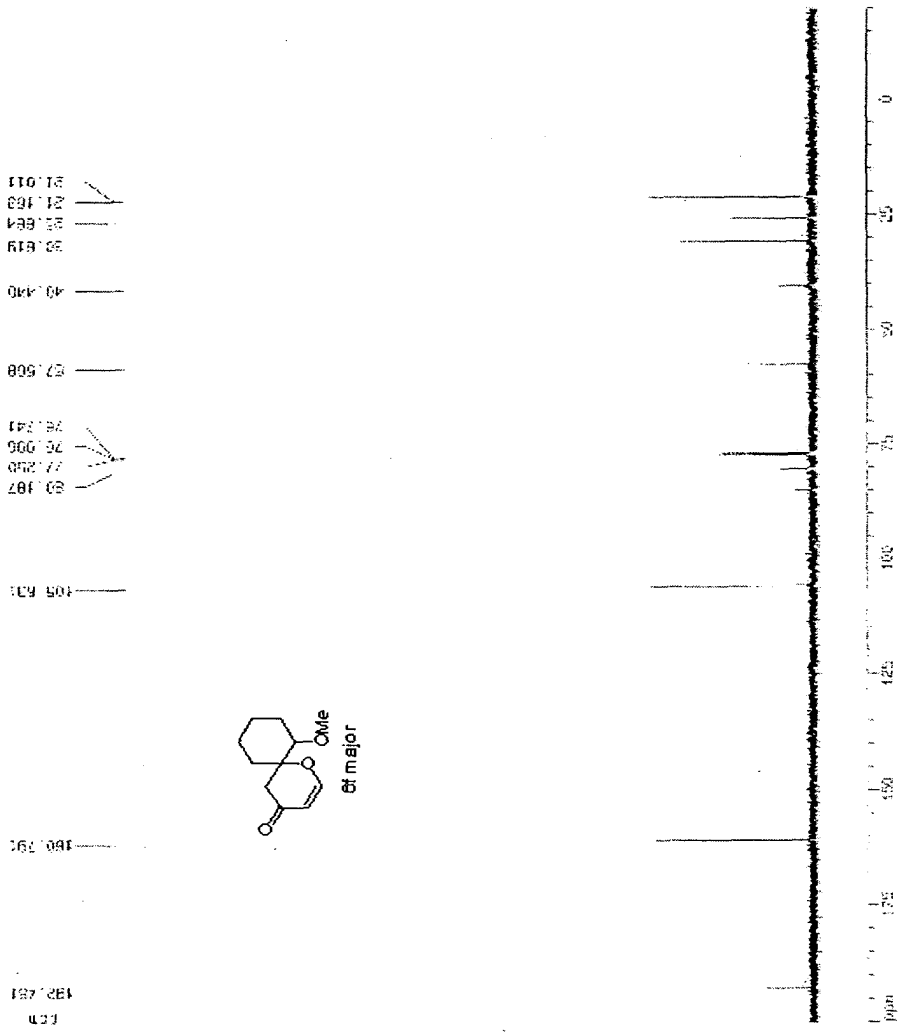


FIG. 24

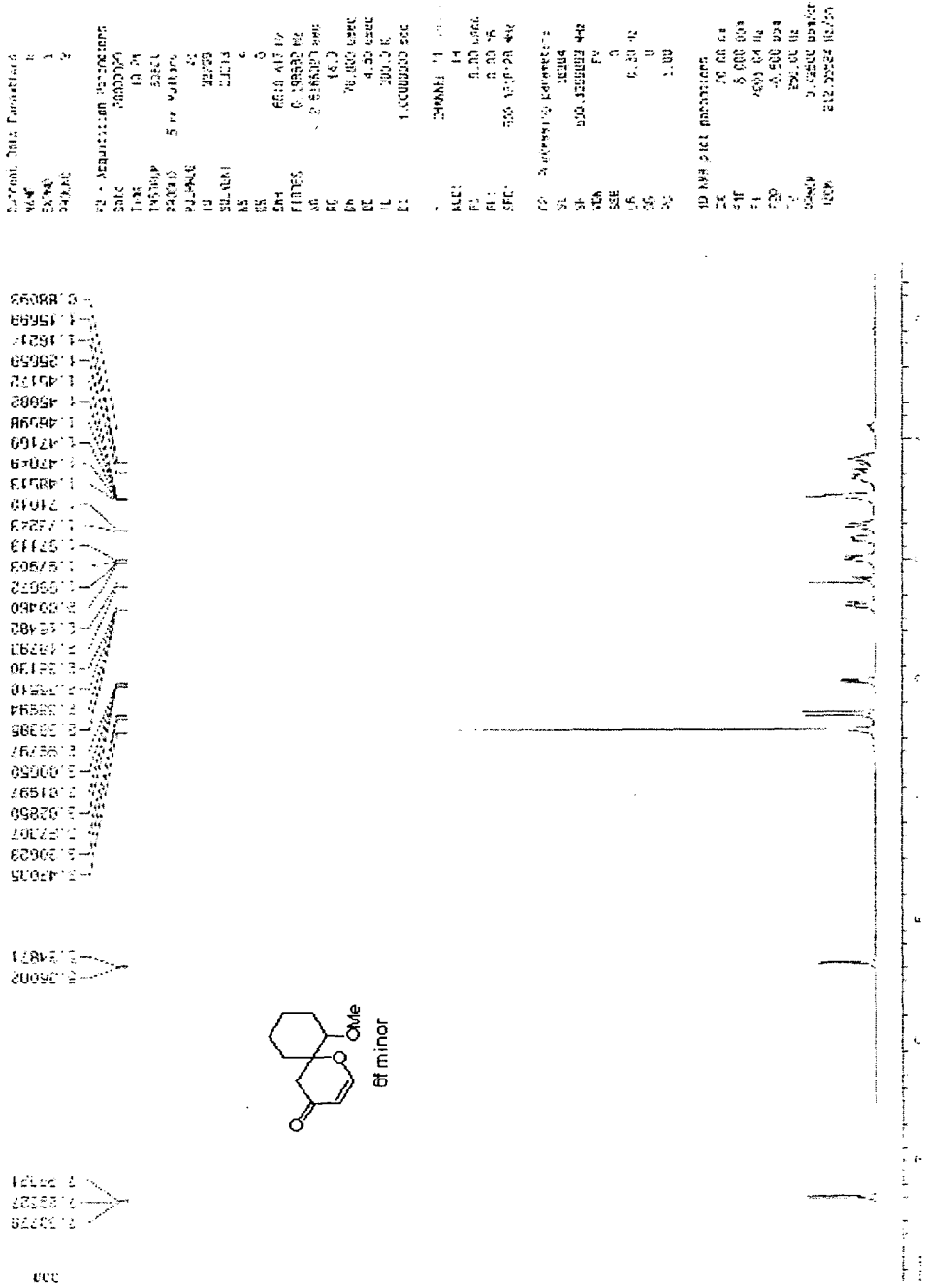


FIG. 25

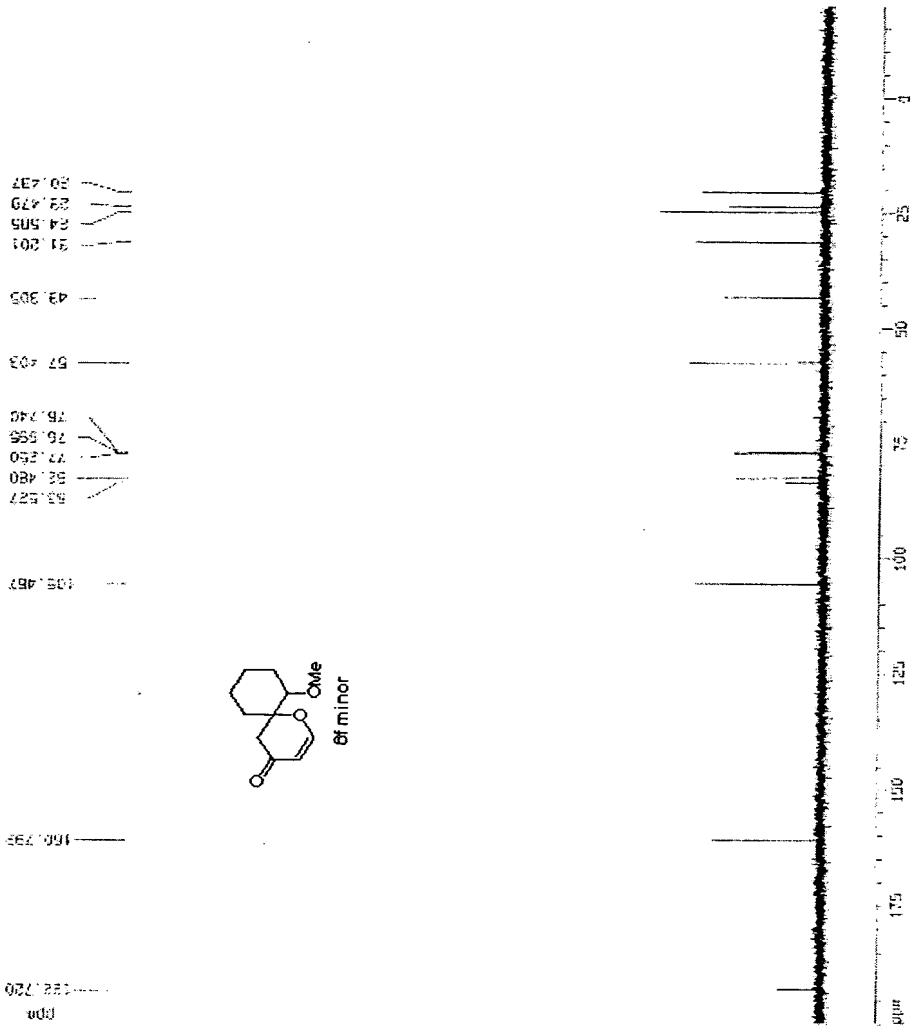


FIG. 26

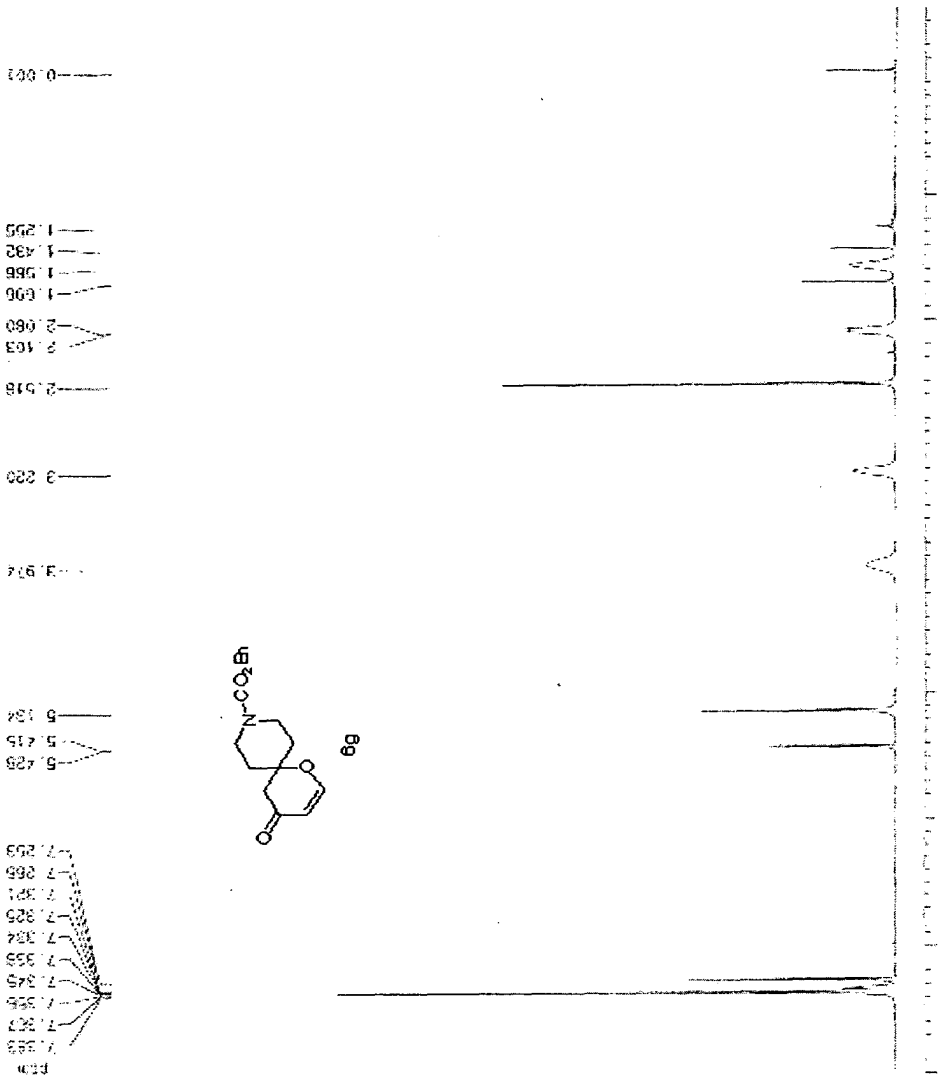


FIG. 27

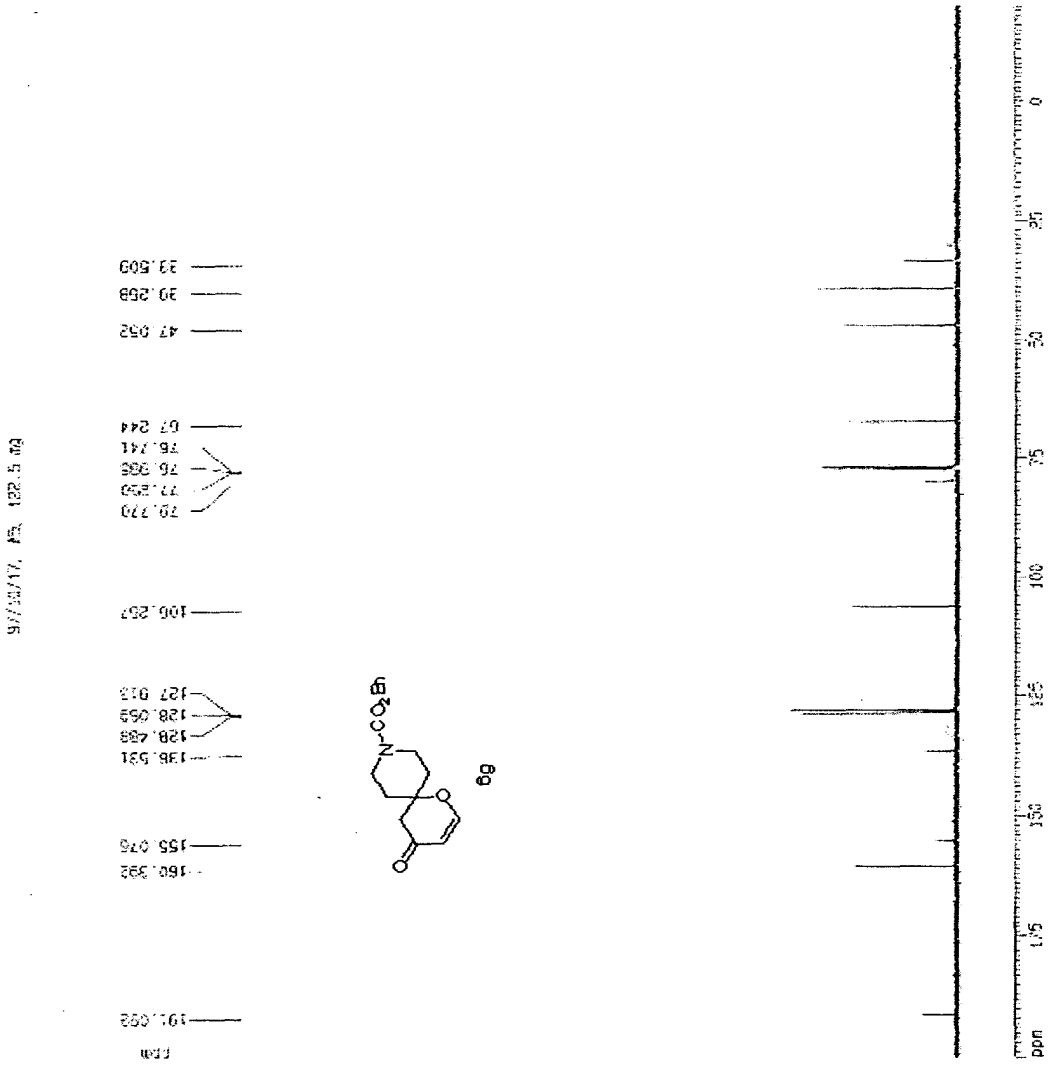


FIG. 28

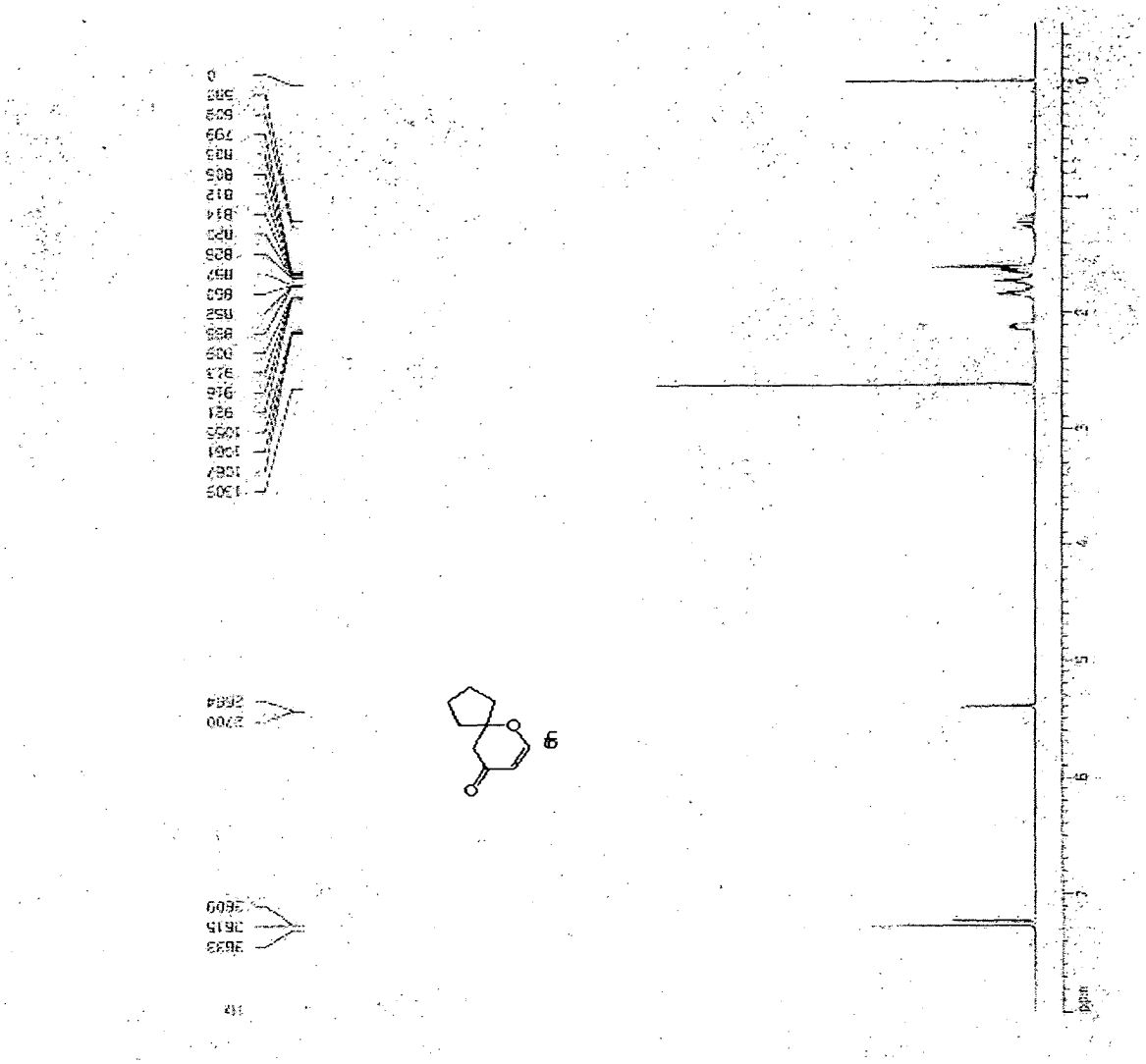


FIG. 29

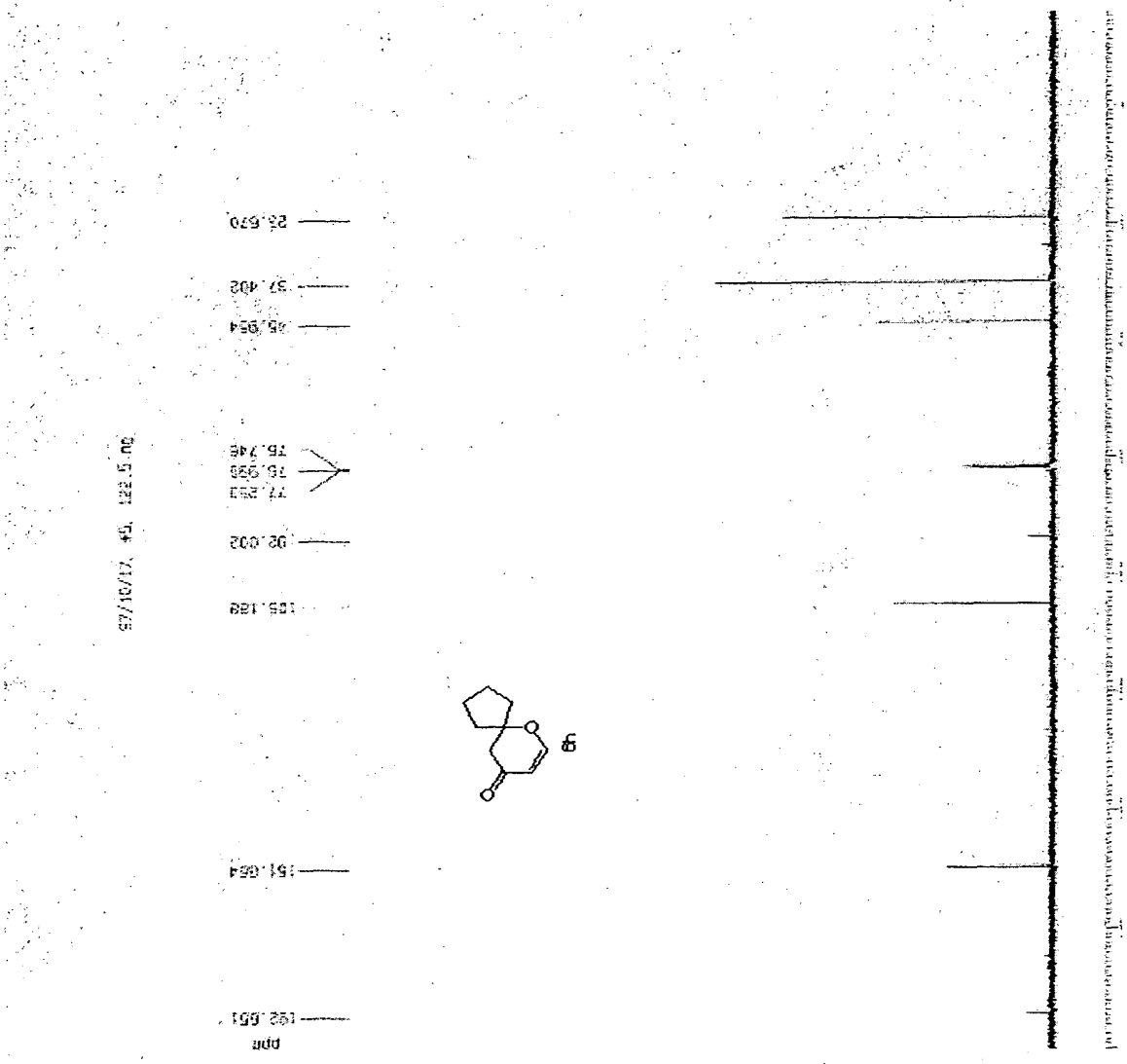

25.670
37.402
65.954
76.746
76.939
77.253
92.002
155.188
161.064
192.651
ppm
97/10/17 45 122.5 DU
9

FIG. 30

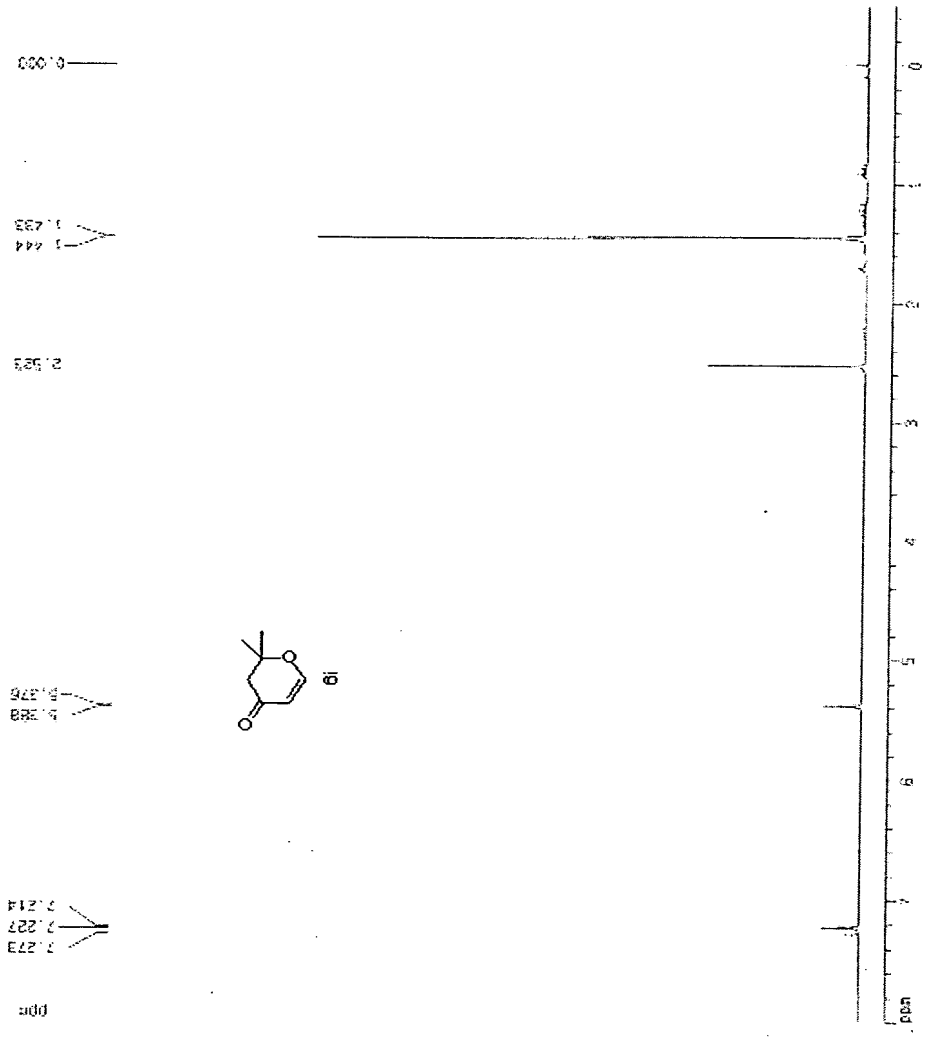


FIG. 31

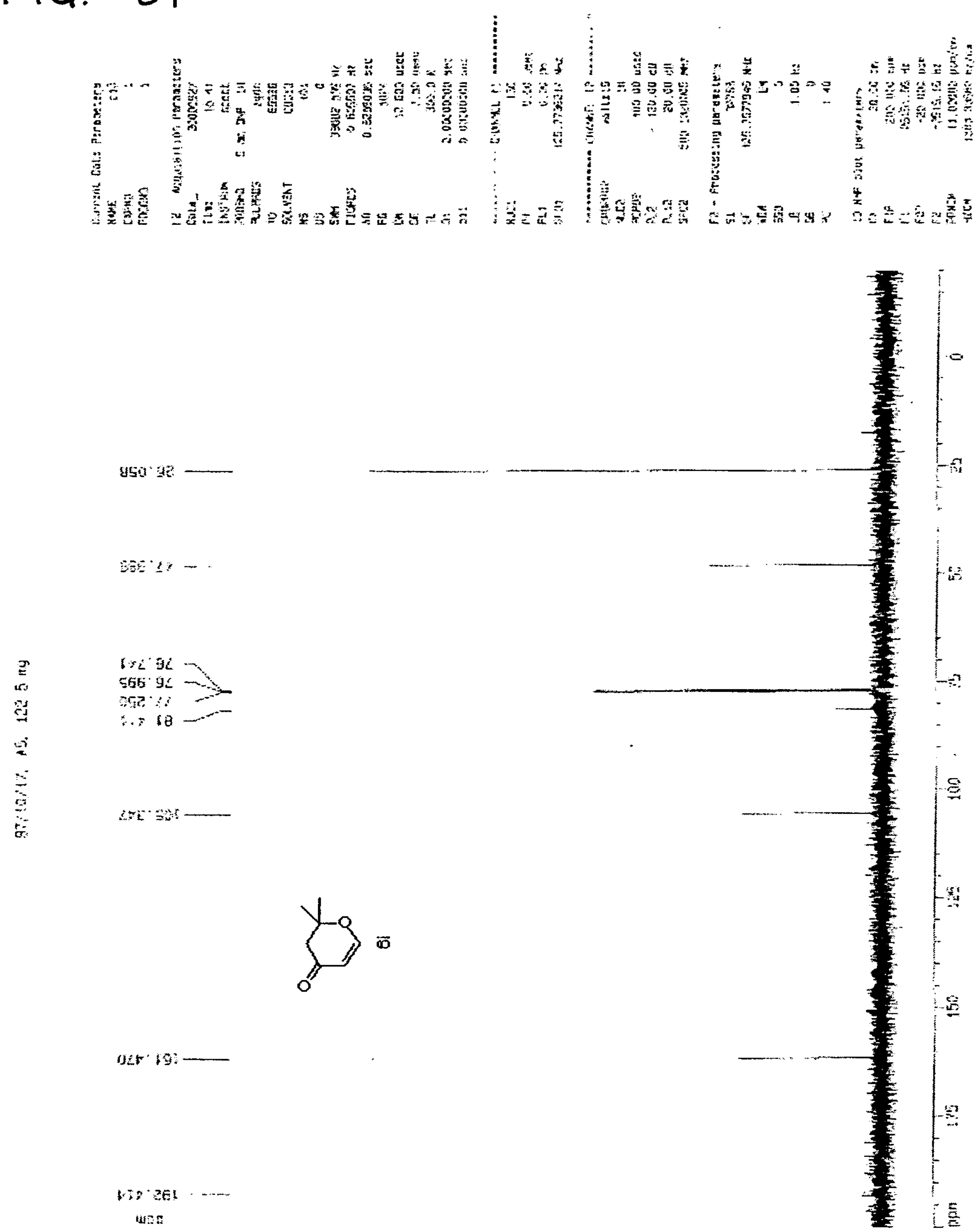


FIG. 32

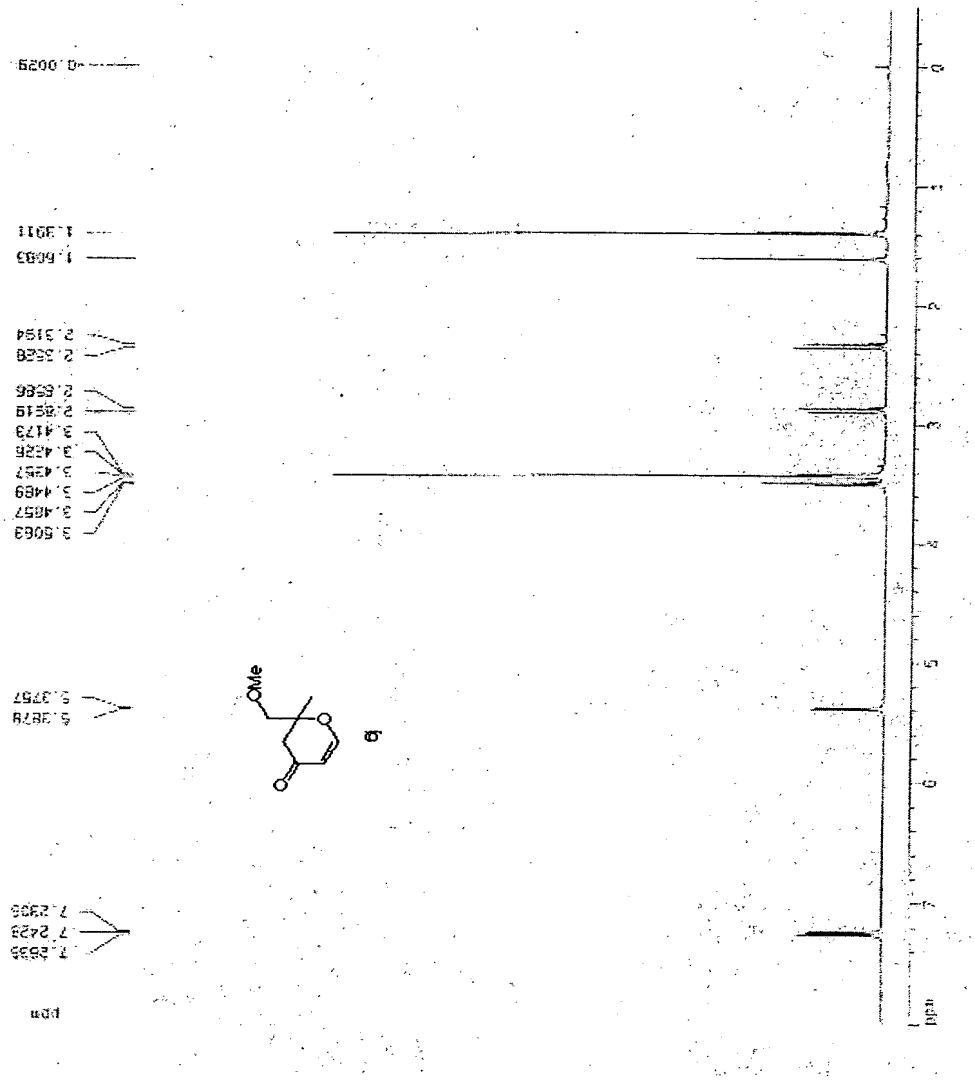


FIG. 33

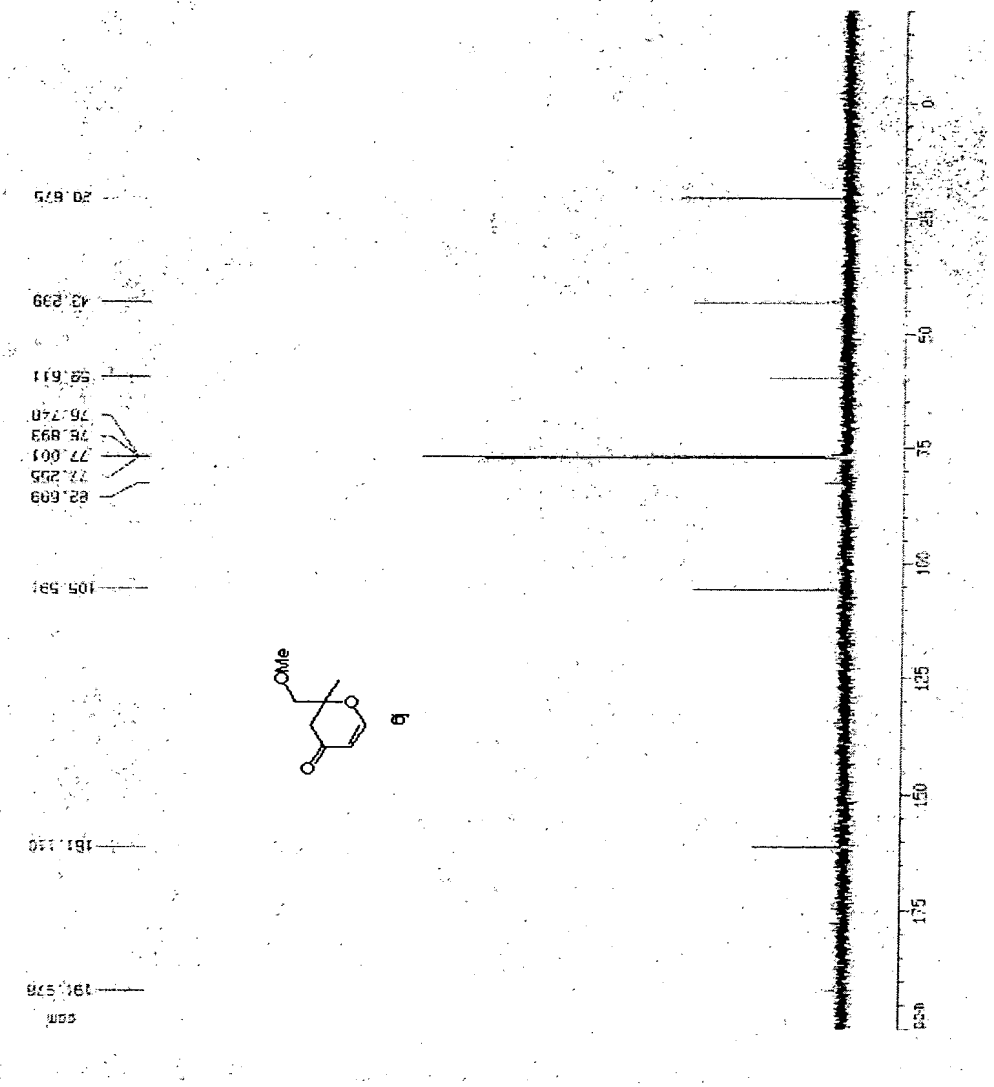

OMe
6g
20.875
42.299
58.611
76.748
76.993
77.001
77.255
82.609
105.591
181.110
191.526
ppm
0
25
50
75
100
125
150
175
200

FIG. 34

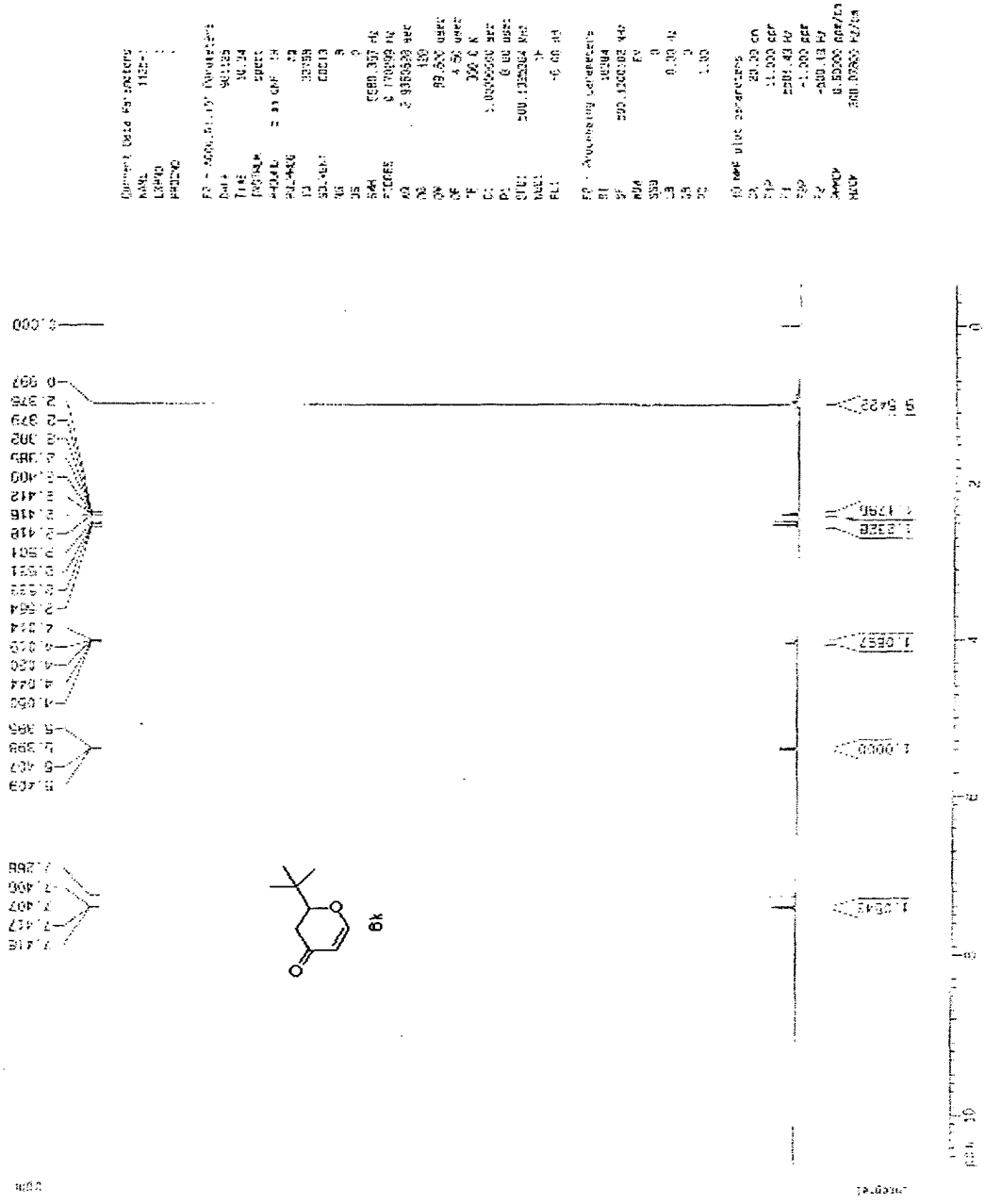


FIG. 35

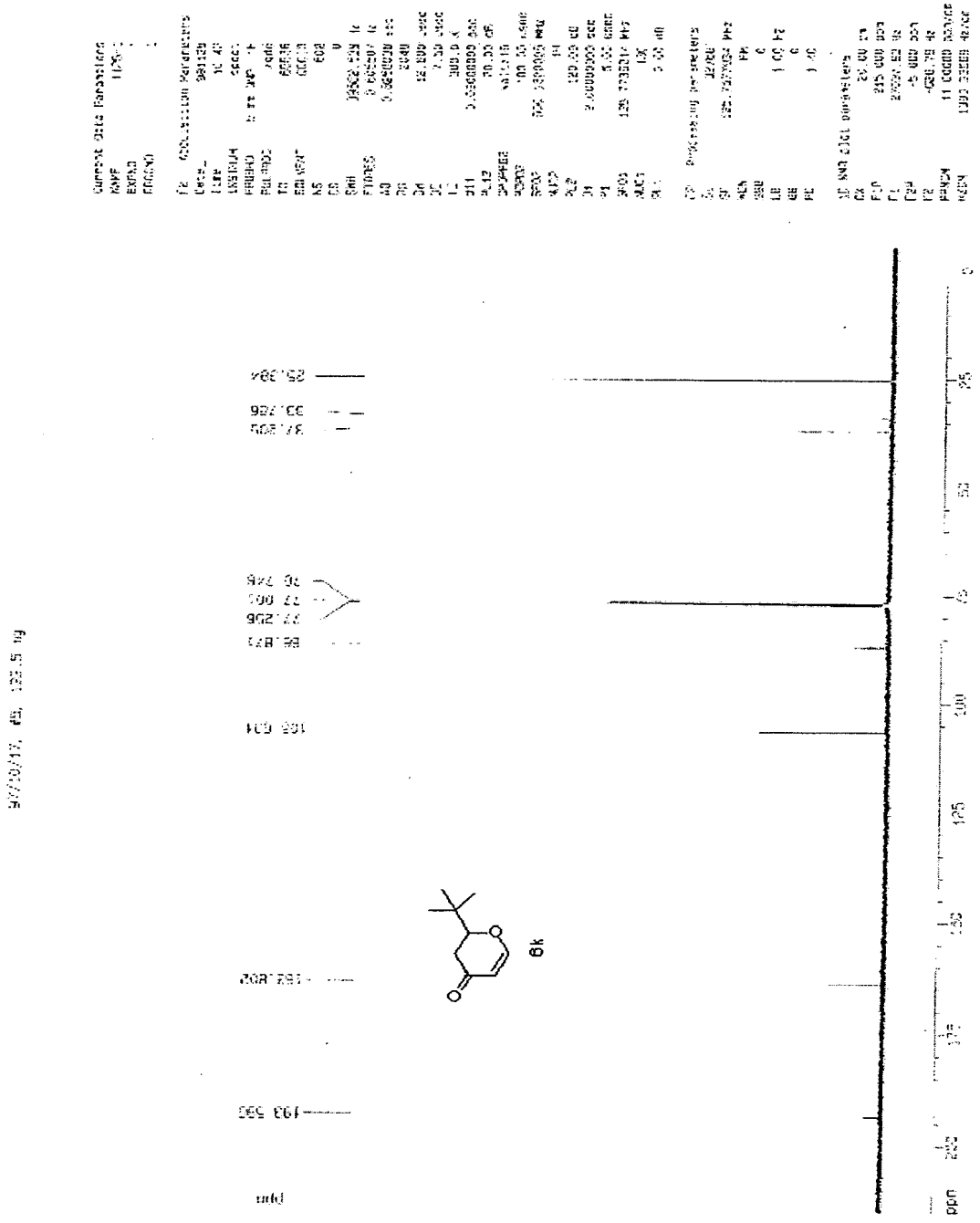
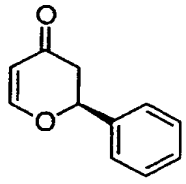


FIG. 36

Sample: AKU.II.175A
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0.9 mL/min

Method: 0.9mL/Min.
Sampling Int: 0.1 Seconds

Data:



4a

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.9 mL/min]

Analysis: Channel A

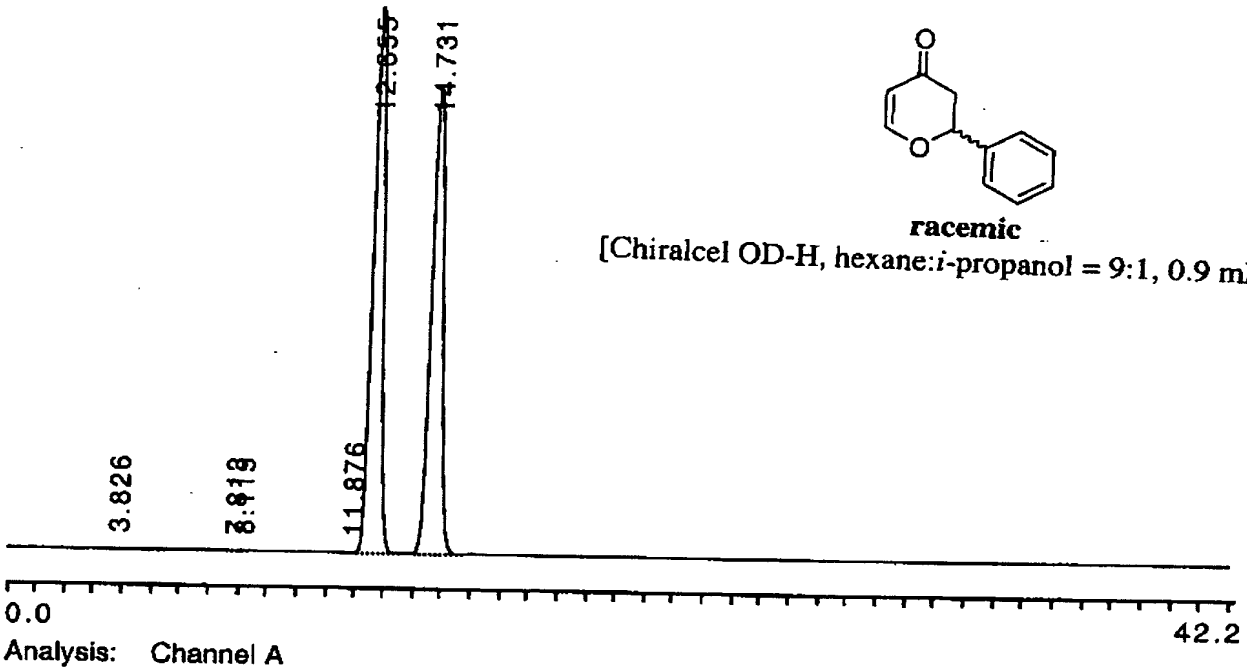
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	3.576	N1	9215	100994	0.504
2	3.886	N2	26062	363490	1.813
3	4.370	N3	2613	30416	0.151
	4.858	N	832	5627	0.028
4	5.456	N	2006	26731	0.133
5	6.615	N	1779	17149	0.085
6	12.885	N	956520	19340950	96.519
7	14.998	N	6812	153023	0.763
Total Area				20038380	99.996

FIG. 37

Sample: AKU.II.145A
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0.9 mL/min

Method: 0.9mL/Min.
Sampling Int: 0.1 Seconds

Data:



racemic
[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.9 mL/min]

Analysis: Channel A

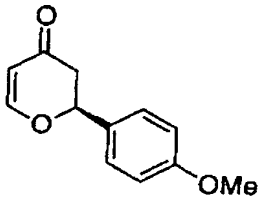
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	3.503	N1	562	2651	0.006
1	3.826	N2	1893	15956	0.039
	4.046	N3	971	5725	0.014
	5.006	N1	718	2973	0.007
	5.241	N2	233	1869	0.004
2	7.813	N1	2964	30947	0.076
3	8.115	N2	1962	20583	0.050
4	11.876	N1	3520	61696	0.152
5	12.655	Err!	1035167	20146444	49.752
6	14.731	N	883568	20204608	49.895
Total Area				40493452	99.995

FIG. 38

Sample: AKU.II.227A
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0.5 mL/min

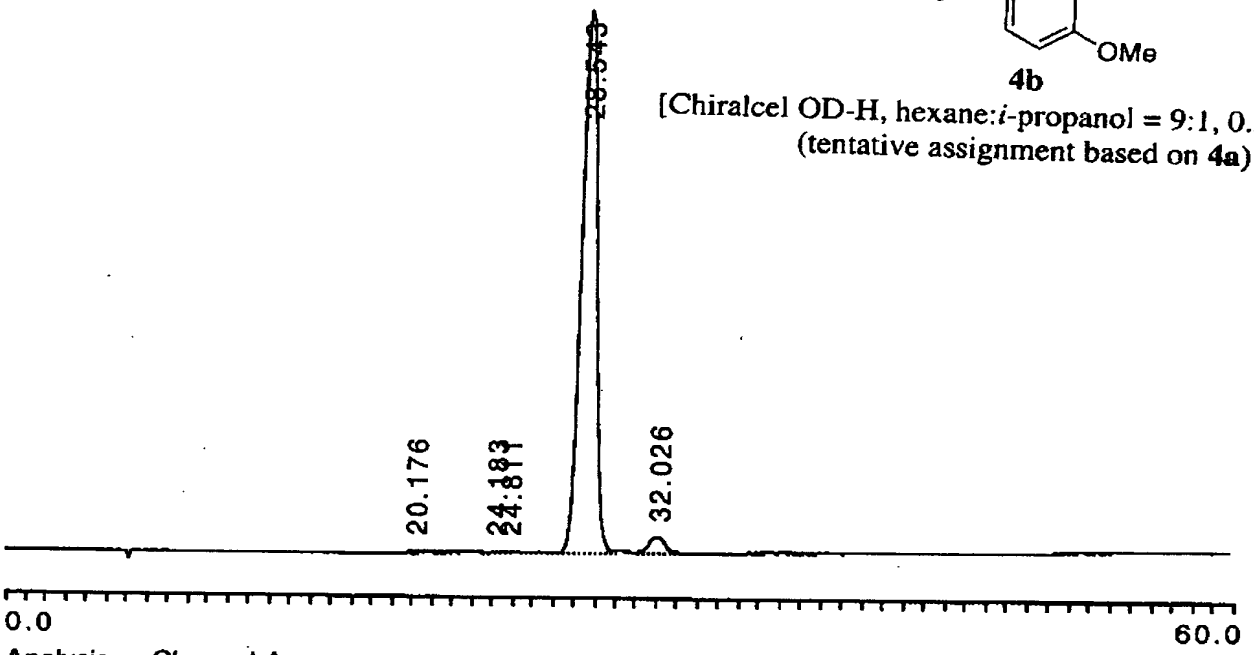
Method: 0.5mL/Min.
Sampling Int: 0.1 Seconds

Data:



4b

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.5 mL/min]
(tentative assignment based on **4a**)



Analysis: Channel A

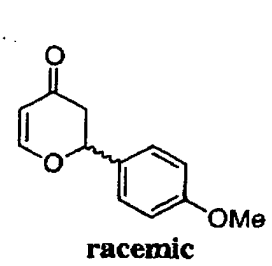
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	20.176	E2	177	2916	0.029
2	24.183	E1	175	918	0.009
3	24.811	E2	90	1073	0.010
4	28.543	E2	223631	9478845	97.085
5	32.026	N	6108	279641	2.864
Total Area				9763393	99.997

FIG. 39

Sample: AKU.II.145B
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0. 5 mL/min

Method: 0.5mL/Min.
Sampling Int: 0.1 Seconds

Data:



racemic

Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.5 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	12.905	N	1970	30188	0.026
2	31.618	Err!	1197506	56719898	49.888
3	33.961	Err!	1110108	56943876	50.085
Total Area				113693962	99.999

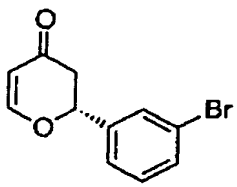
FIG. 40

Sample:

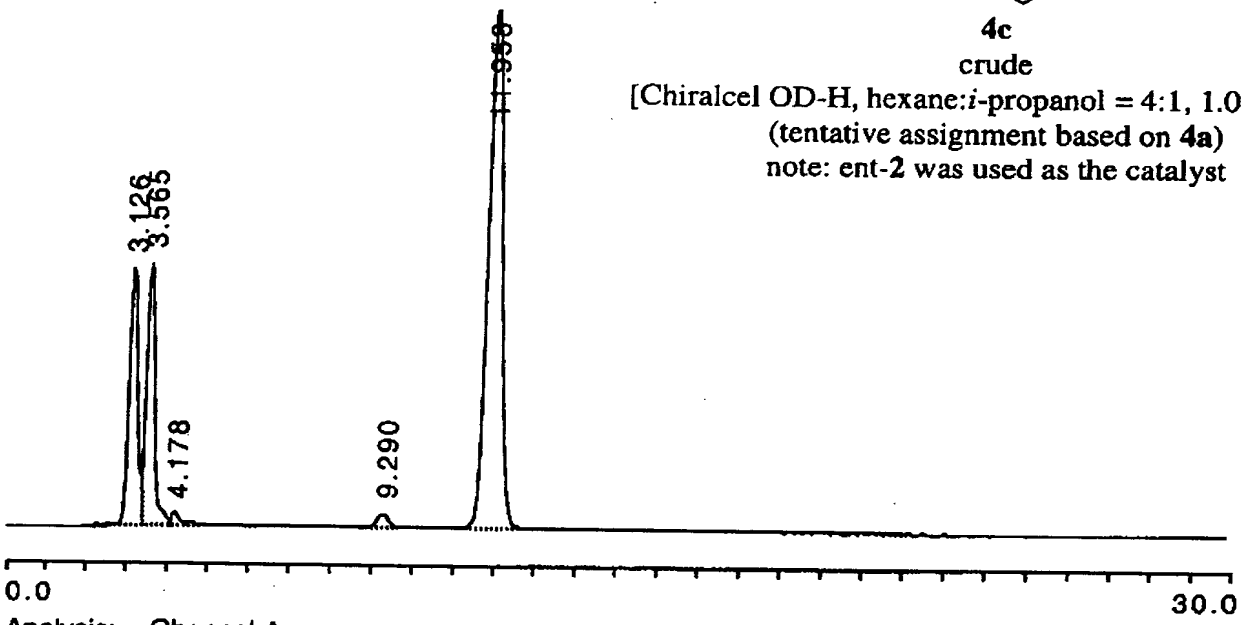
pyran-3-bromophenyl
OD-H
20% i-PrOH/Hexane, 1.0 ML/min

Processing File:
Method: general condition-30min
Sampling Int: 0.1 Seconds

Data:



4c
crude
[Chiralcel OD-H, hexane:*i*-propanol = 4:1, 1.0 mL/min]
(tentative assignment based on **4a**)
note: ent-2 was used as the catalyst



Analysis: Channel A

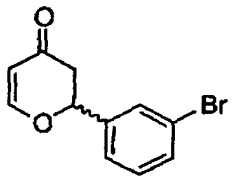
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	2.245	Err!	1147	633	0.005
	2.645	Err!	543	2336	0.020
1	3.126	N1	174081	1923918	16.718
2	3.565	N2	176533	2034916	17.683
3	4.178	Err!	7530	88623	0.770
	4.555	Err!	1062	7197	0.062
	6.066	Err!	401	1315	0.011
	8.678	Err!	385	135	0.001
	8.776	Err!	243	191	0.001
4	9.290	Err!	8197	130505	1.134
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
5	11.958	N	350239	7317384	63.586
	17.498	Err!	257	551	0.004
Total Area				11507704	99.995

FIG. 41

Sample:
pyran-3-bromophenyl
OD-H
20% i-PrOH/Hexane, 1.0 ML/min

Processing File:
Method: general condition-30min
Sampling Int: 0.1 Seconds

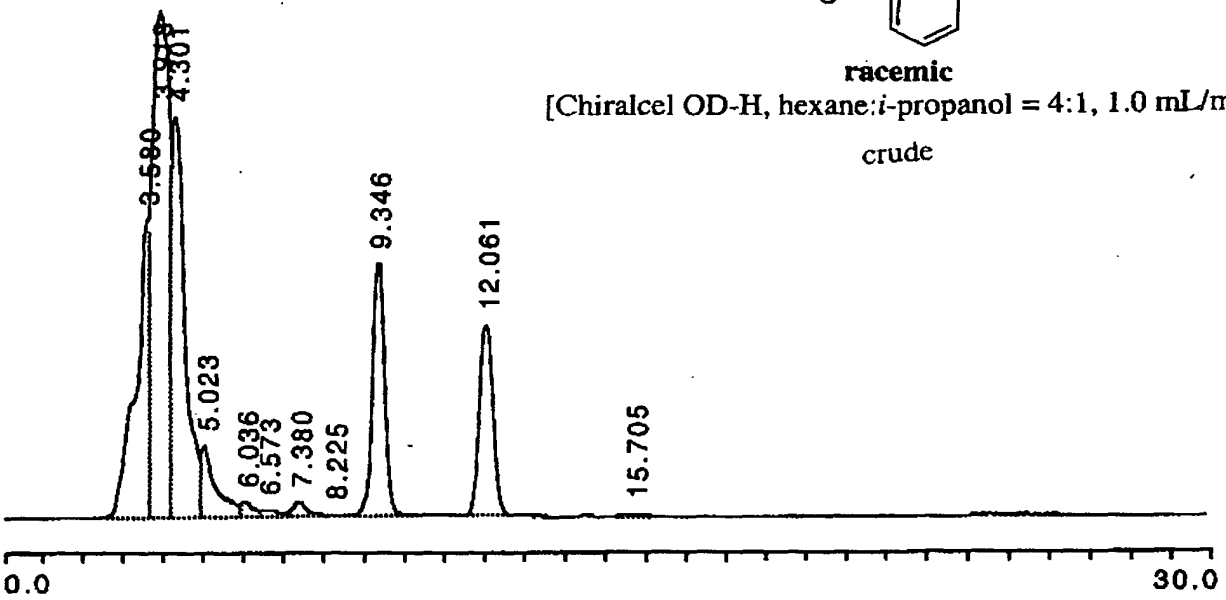
Data:



racemic

[Chiralcel OD-H, hexane:*i*-propanol = 4:1, 1.0 mL/min]

crude



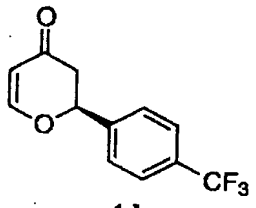
Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	3.580	N1	929950	18672350	15.123
2	3.918	Errl	1578446	44994432	36.443
3	4.301	Errl	1251011	26245272	21.257
4	5.023	N4	221661	5347249	4.330
5	6.036	N5	40524	835084	0.676
6	6.573	Errl	18597	557508	0.451
7	7.380	N7	40756	792924	0.642
8	8.225	Errl	2766	48066	0.038
9	9.346	N	790975	13368844	10.828
10	12.061	N	602050	12510882	10.133

FIG. 42

Data: AT.4-CF3.20mol%.L.-78.48h.0.9

Method: 0.9mL/Min.
Sampling Int: 0.1 Seconds
Data:



4d

[Chiralcel OD-H, hexane:*i*-propanol = 10:1, 0.9 mL/min]
(tentative assignment based on **4a**)

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	3.421	N	16523	279041	5.146
2	9.315	N	1831	23937	0.441
3	12.208	N	254842	4991673	92.064
4	16.100	N	5165	127294	2.347
Total Area				5421945	99.998

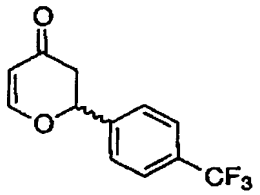
FIG. 43

Data: AKU.II.145C 4-F3C rac

Sample: AKU.II.145C
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0. 9 mL/min

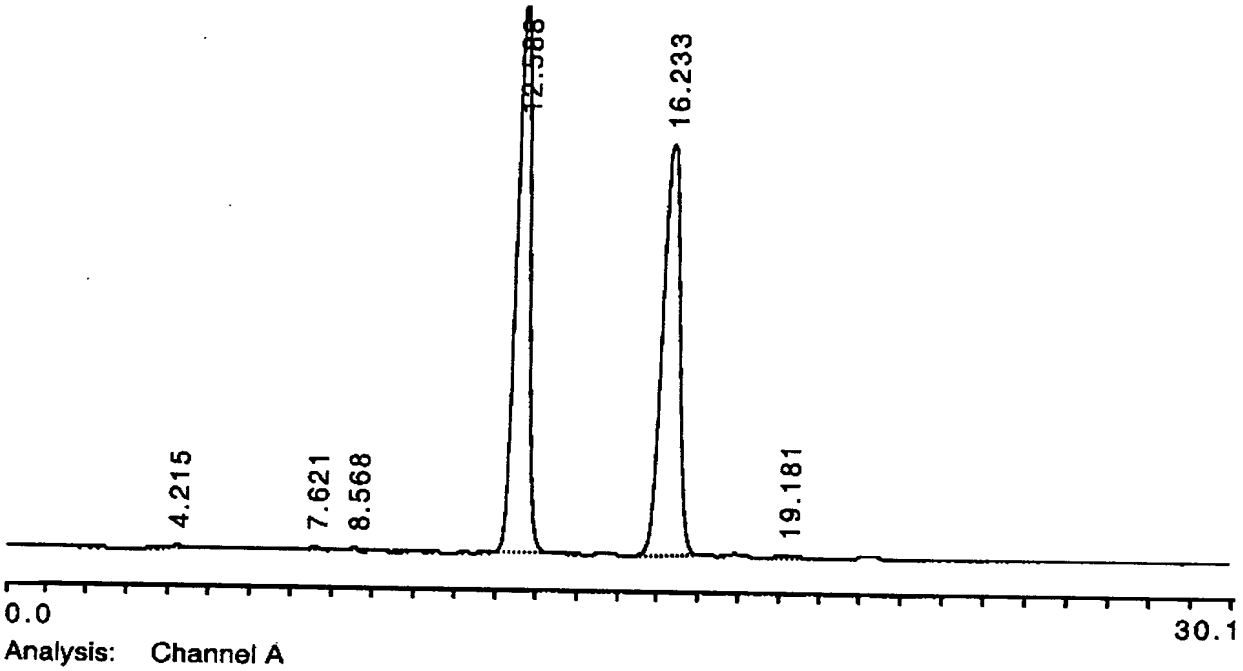
Method: 0.9mL/Min.
Sampling Int: 0.1 Seconds

Data:



racemic

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.9 mL/min]



Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	3.901	N	452	2495	0.010
1	4.215	N1	2600	20244	0.088
	4.436	N2	1156	8533	0.037
	5.408	N	921	6206	0.027
2	7.621	N	3893	40499	0.177
3	8.568	N	2653	25293	0.110
4	12.588	N	585042	11355290	49.815
5	16.233	N	440367	11268832	49.436
6	19.181	N	2648	67138	0.294
	28.736	N	159	191	0.000
Total Area				22794721	99.994

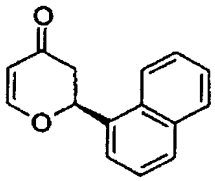
FIG. 44

Data: AT.1-naph.L.-78.48h(5%,1.4mL)

Sample: AT
1-naphthaldehyde, -78C, 48 h
OD-H, 5% iPrOH/hexanes, 1.4 mL/min

Processing File: aku1
Method: 1.4mL/Min.
Sampling Int: 0.1 Seconds

Data:



4e

[Chiralcel OD-H, hexane:*i*-propanol = 19:1, 1.4 mL/min]
(tentative assignment based on **4a**)

Analysis: Channel A

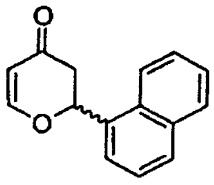
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	26.160	N	29209	1383795	1.510
2	30.245	Err!	1140658	89644942	97.850
3	37.280	N	8712	585517	0.639
Total Area				91614254	99.999

FIG. 45

Sample: AKU.II.145G
Chiracel OD-H, 25cm
5% i-PrOH/Hexane, 1.4 mL/min

Method: 1.4mL/Min.
Sampling Int: 0.1 Seconds

Data:



racemic

[Chiralcel OD-H, hexane:*i*-propanol = 19:1, 1.4 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	2.501	N1	1416	5660	0.007
1	2.680	N2	2174	11129	0.015
	2.873	N3	958	4	0.000
	3.246	N4	2289	3206	0.004
	3.423	N5	126	125	0.000
	3.905	N	1121	9160	0.012
	4.445	N	264	1584	0.002
2	5.056	N	5253	48998	0.068
	6.221	N	1103	6385	0.008
3	7.725	N	1247	16261	0.022
4	10.313	N	6814	115950	0.162
5	12.068	N	6028	116445	0.162
6	30.988	N1	525795	35549454	49.694
7	34.260	N2	463757	35651328	49.837
Total Area				71535689	99.993

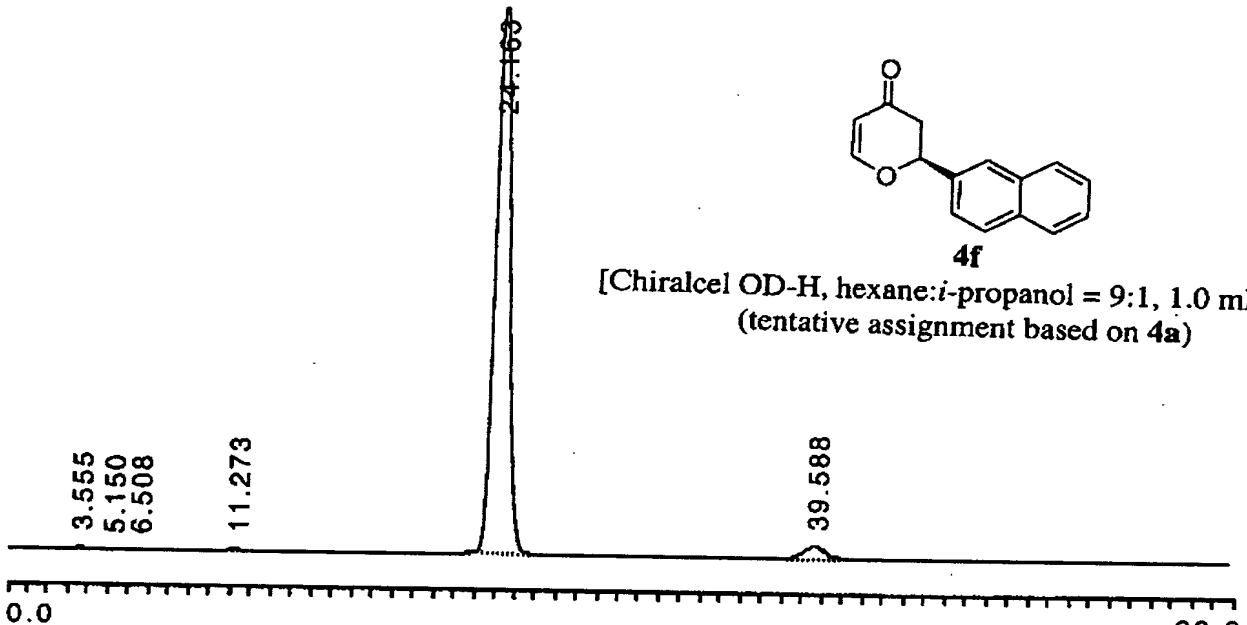
FIG. 46

Data: AKU.II.222A-2Naphthyl

Sample:

Method: 1.0ml/Min
Sampling Int: 0.1 Seconds

Data:



4f

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 1.0 mL/min]
(tentative assignment based on **4a**)

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	3.195	N	562	2743	0.003
1	3.555	N	4237	32922	0.045
2	5.150	N	2066	31910	0.043
3	6.508	N	1790	15877	0.021
4	11.273	N	6316	120143	0.165
5	24.163	Err!	1601505	70209318	96.655
6	39.588	N	32426	2226042	3.064
Total Area				72638955	99.996

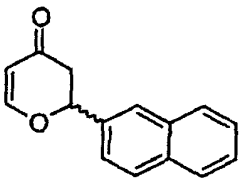
FIG. 47

Data: AKU.II.145H 2-nap rac

Sample: AKU.II.145H
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 1.0 mL/min

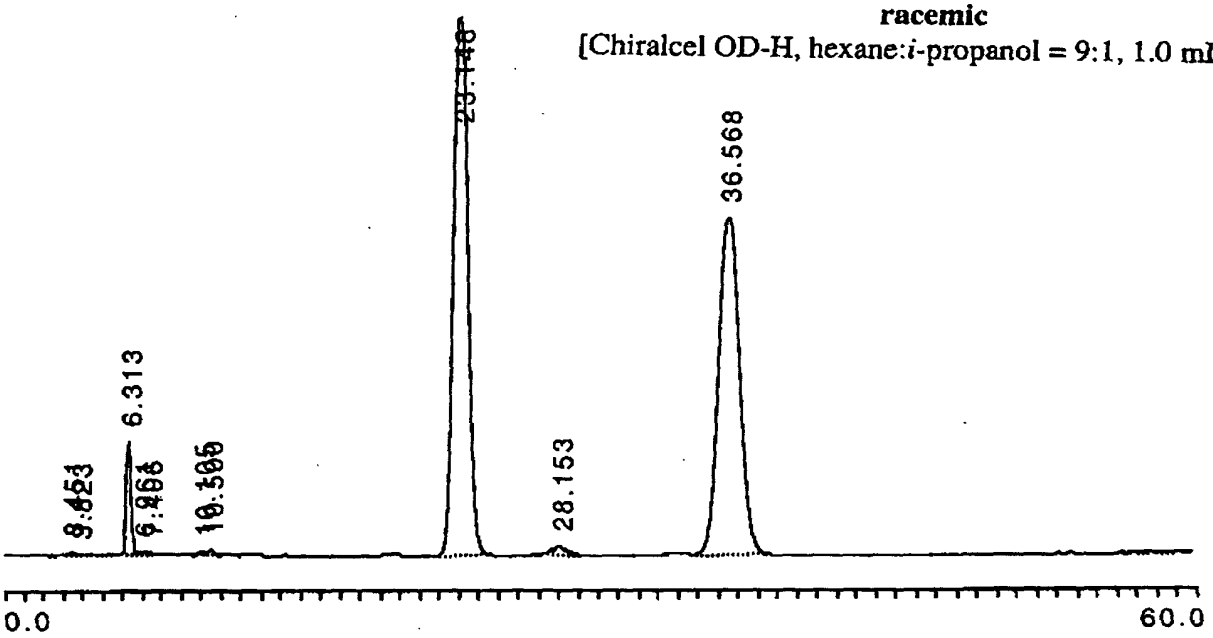
Method: 1.0ml/Min
Sampling Int: 0.1 Seconds

Data:



racemic

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 1.0 mL/min]



Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	3.175	N1	734	4123	0.008
1	3.451	N2	2334	19682	0.039
2	3.823	N3	1164	11387	0.022
	4.556	N1	983	5966	0.011
	4.906	N2	586	3850	0.007
	5.160	N3	1336	7364	0.014
3	6.313	N1	123201	1137325	2.255
4	6.961	N2	4382	89106	0.176
5	7.406	N3	2798	32542	0.064
6	10.105	N1	5044	82768	0.164
7	10.500	N2	5499	99853	0.198
8	23.148	N	580150	24297556	48.180
9	28.153	N	8242	410122	0.813
10	36.568	N	361504	24228328	48.043
Total Area				50429972	99.994

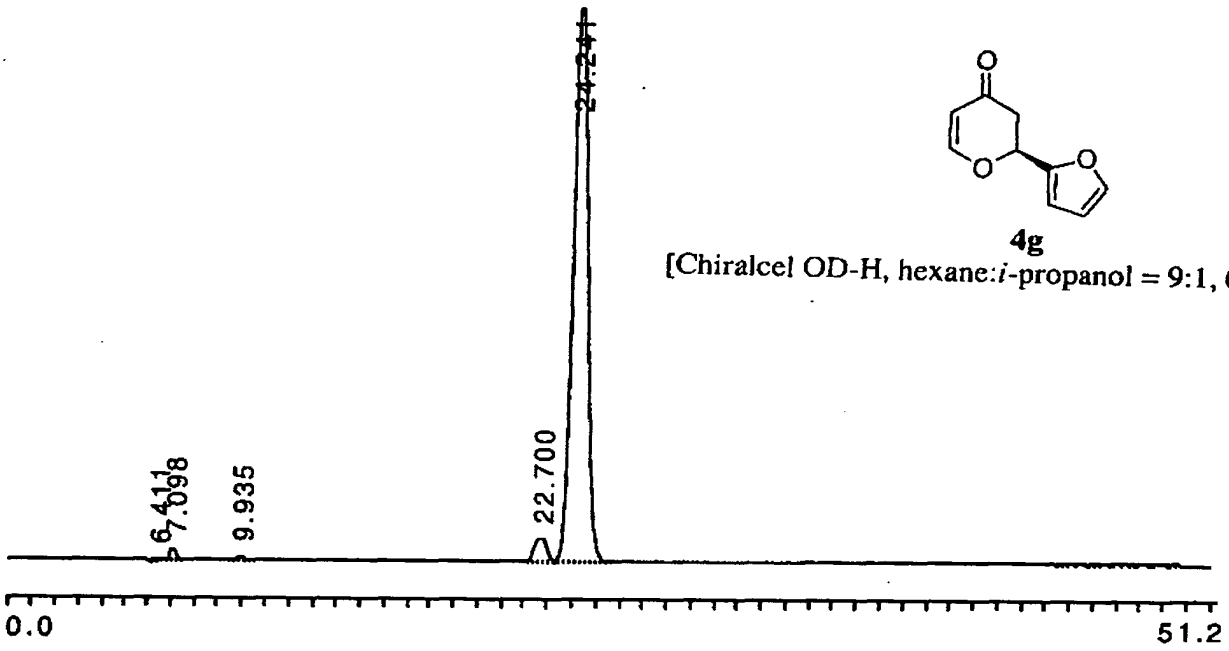
FIG. 48

Data: AKU.II.230D-furfural

Sample: AKU.II.230D
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0.5 mL/min

Method: 0.5mL/Min.
Sampling Int: 0.1 Seconds

Data:



4g

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.5 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	6.411	N	1714	25728	0.104
2	7.098	N	13543	191717	0.781
3	9.935	N	4187	130271	0.531
4	22.700	N1	29171	931259	3.796
5	24.241	N2	651282	23248690	94.785
Total Area				24527665	99.997

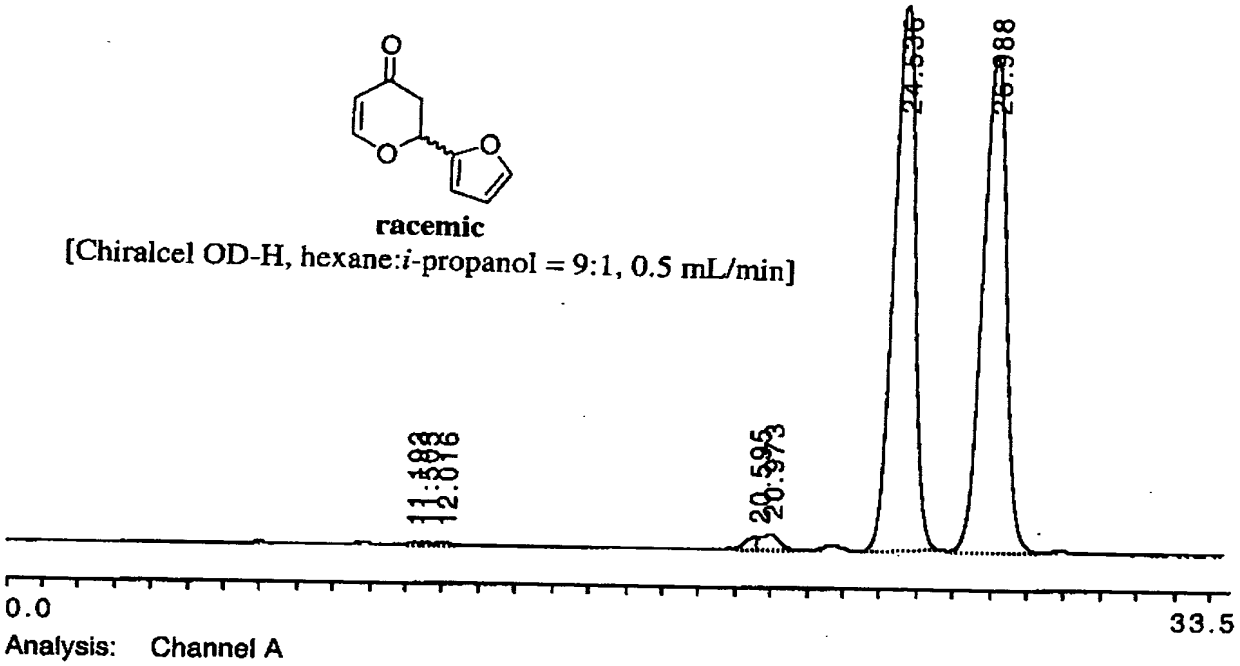
FIG. 49

Data: AKU.II.192C-racfufural

Sample: AKU.II.192C
Chiracel OD-H, 25cm
10% i-PrOH/Hexane, 0.5 mL/min

Method: 0.5mL/Min.
Sampling Int: 0.1 Seconds

Data:



Analysis: Channel A

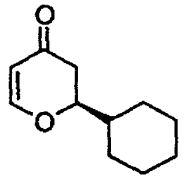
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	11.193	N1	1918	30005	0.116
2	11.505	N2	2075	33399	0.129
3	12.016	N3	1705	28762	0.111
4	20.595	N1	6701	124528	0.484
5	20.973	N2	9347	317259	1.233
6	24.536	N	347076	12620834	49.085
7	26.988	N	314549	12557414	48.838
Total Area				25712201	99.996

FIG. 50

Data: AT.cyclohexyl.20mol%.L.-40.24h

Method: 0.2ml/Min
Sampling Int: 0.1 Seconds

Data:



4h
crude
[Chiralcel OD-H, hexane:*i*-propanol = 10:1, 0.2 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	17.546	N	5980	174728	0.346
2	26.008	N	230323	13633398	27.041
3	31.078	N	785682	34237770	67.909
4	33.510	N	52307	2370768	4.702
Total Area				50416664	99.998

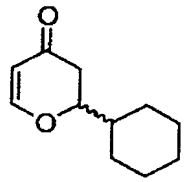
FIG. 51

Data: AKU.II.145M cyclohex rac

Sample:

Method: 0.3ml/Min
Sampling Int: 0.1 Seconds

Data:



racemic

[Chiralcel OD-H, hexane:*i*-propanol = 9:1, 0.3 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	14.186	N	338	1570	0.001
1	26.388	Err!	1753734	63525716	50.011
2	29.236	Err!	1574118	63493906	49.986
Total Area				127021192	99.998

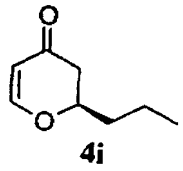
FIG. 52

Data: AKU.II.228A-propyl

Sample: AKU.II.228A
Chiracel OD-H, 25cm
1% i-PrOH/Hexane, 0.5 mL/min

Method: 0.1ml/Min
Sampling Int: 0.1 Seconds

Data:



4i

[Chiralcel OD-H, hexane:*i*-propanol = 99:1, 0.5 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
1	6.233	N1	74384	16438908	63.336
2	10.205	N2	20930	1335791	5.146
3	23.515	N	231589	7483275	28.831
4	26.505	N	19769	696990	2.685
Total Area				25954964	99.998

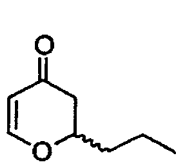
FIG. 53

Data: AKU.II.224B-racpropyl

Sample: AKU.II.224B
Chiracel OD-H, 25cm
1% i-PrOH/Hexane, 0.5 mL/min

Method: 0.5mL/Min.
Sampling Int: 0.1 Seconds

Data:



racemic

[Chiralcel OD-H, hexane:*i*-propanol = 99:1, 0.5 mL/min]

Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	4.206	N1	84	58	0.000
	4.663	N2	731	6970	0.017
1	6.548	N3	15822	1110879	2.743
2	8.590	N	1569	15858	0.039
3	10.055	N1	18436	897070	2.215
4	11.036	N2	1532	36228	0.089
5	27.716	N	482954	19209732	47.436
6	31.815	N	421016	19218838	47.459
Total Area				40495633	99.998

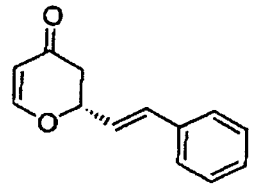
FIG. 54

Sample:

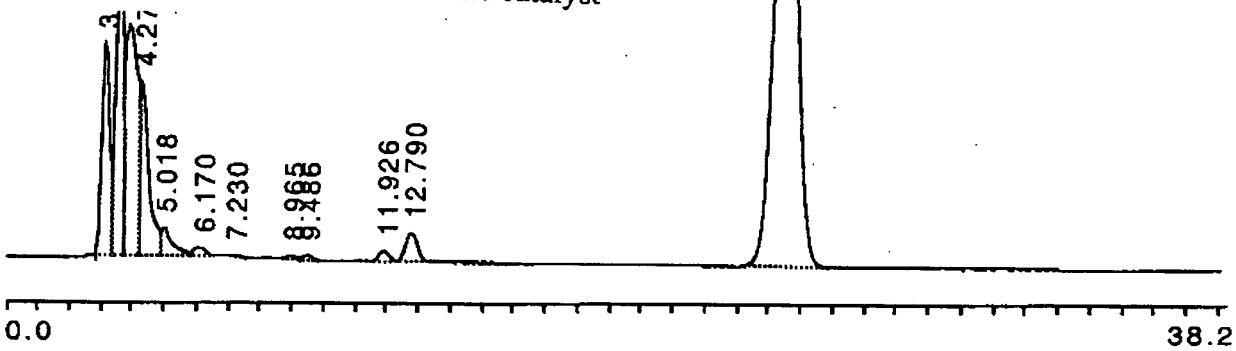
pyran-styryl
OD-H
20% i-PrOH/Hexane, 1.0 ML/min

Method: general condition
Sampling Int: 0.1 Seconds

Data:



4j
crude
[Chiralcel OD-H, hexane:*i*-propanol = 4:1, 1.0 mL/min]
note: ent-2 was used as the catalyst



Analysis: Channel A

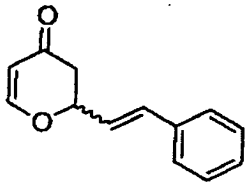
Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
	2.821	N1	2189	880	0.002
1	3.126	N2	224396	2978829	6.902
2	3.571	N3	306241	4112288	9.529
3	3.885	N4	242989	5920349	13.719
4	4.271	N5	184504	3709344	8.595
5	5.018	N6	29215	642371	1.488
6	6.170	N7	8060	159135	0.368
7	7.230	N	2209	22532	0.052
8	8.965	N1	4560	71179	0.164
9	9.486	N2	4266	75218	0.174
10	11.926	N1	10308	204240	0.473
11	12.790	N2	29826	673380	1.560
12	24.488	N	554249	24583814	56.967
	37.145	Err1	423	642	0.001
Total Area				43154201	99.994

FIG. 55

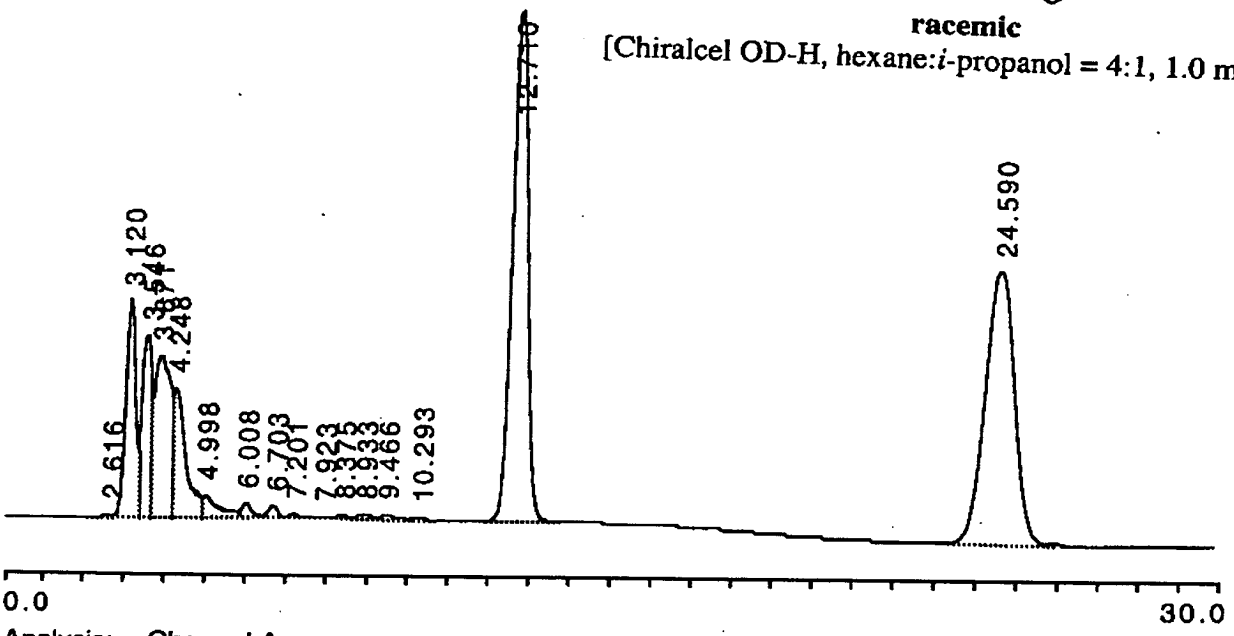
Sample:
pyran-cinnamyl
OD-H
20% i-PrOH/Hexane, 1.0 ML/min

Method: general condition-30min
Sampling Int: 0.1 Seconds

Data:



racemic
[Chiralcel OD-H, hexane:*i*-propanol = 4:1, 1.0 mL/min]



Analysis: Channel A

Peak No.	Time	Type	Height(μV)	Area(μV-sec)	Area%
11	8.375	N2	6633	106844	0.115
12	8.933	N3	8896	160544	0.172
13	9.466	N4	7911	150553	0.162
14	10.293	N	3046	47285	0.050
15	12.710	Err!	1253481	28325212	30.501
16	24.590	N	671365	30885282	33.258
Total Area				92865604	99.993